THE BUILDER

A RECORD OF ARCHITECTURE AND CONSTRUCTION.

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ARCHITECTURE AND CLASSICAL ANTIQUITY.

THE antiquarian attitude towards ancient buildings is apt to be considered the sign of an age of artistic decadence, just as criticism is said to flourish most in a non-creative age. That the former statement, at least, is far from the truth a little examination of the facts will prove, and it is worth while to consider the question with a view to its bearing on our own attitude to the relics of the past. If it is really a sign of artistic decadence to admire the relics of antiquity, then lamentation at their loss is hypocrisy, and the destruction of Reims and Ypres and Louvain is not the serious matter that we appear to think it. But what is the truth? So highly did the architects of the age of Pericles value the traditions of antiquity that in their reconstruction of the Erechtheum they retained the level of the old shrine, ruined by the Persians, without attempting to produce that equality of surface and unity of treatment of which their artistic skill was obviously capable. In designing the Propylæa again such regard for ancient buildings and ancient sites was shown by the architect Mnesicles as can only be explained by a true conservative instinct for the importance of the relics of the past. We all know again how, a generation earlier, the temples of Egypt, and, above all, their antiquity, impressed Herodotus as they had before impressed Pythagoras, and how freely ancient writers on Greek sculpture admit its debt to Egyptian models. It is clear from Aristotle's criticisms on painting in the "Poetics" and his admiring references to Pheidias and Polycleitus in the "Ethics" that, while living himself in a period of abounding creative vitality, he set a high value on the works of the preceding age, and his school distinguished itself from the first in the collection and arrangement of anecdotes of painters and notes on works of art. A hundred years later Polemon of Ilium devoted a separate book to each of the great Greek centres of artistic production—Olympia,* Delphi, and Athens. To a later school of critics, comprising both Greeks and Romans—Cicero and Quintilian may be reckoned among the latter—belongs a definite revival of interest in archaic Greek work as opposed to the more correct and realistic work of the third and fourth centuries B.C., while the work of Vitruvius, which is confined to architecture, is full of learned and enthusiastic disquisitions on the work of his predecessors, Greek and Roman, though the author was himself employed on various new buildings in the greatest, in extent, of all ancient periods of architectural antiquity—the reign of Augustus—that reign which "found Rome brick and left it marble," and whose artistic importance is becoming every year more clear.

But Vitruvius is not the only Roman writer from whom we glean important information as to earlier Roman work. There is a famous passage in Livy in which Cato the Elder utters a memorable protest against the admiration for Greek gods and Greek architecture which was rapidly displacing the terra-cotta mouldings and the simple traditional structures of Etruscan origin; and his attitude, if not his personal protest, was powerful enough to keep unchanged more than one of these early temples, as we learn from the pages of Pliny. Here, then, we have what we observed in the Greece of Pericles—the carrying out of great architectural schemes with a due reverence and regard for earlier work, and this in the very flood of a new national enthusiasm for every form of art; and the same is the case in the next great artistic revival in Rome—that under the Emperor Hadrian. If a great public demand for more knowledge of ancient art and architecture had not gone side by side with this revival, this Renaissance, promoted by the personal patronage of the artist, architect and dilettante emperor himself, we should never have had the great guide-book of Pausanias, the "Description of Greece."

When we come to mediæval times we shall find that Romanesque develops ultimately from Roman art; Gothic, on the other hand, is justly described by Mr. W. R. Lethaby as "an art which seems to have required for its perfection no sort of looking back to a classic past"; it arose in its perfection in countries free from the classical tradition, and may be described as independent of the art of earlier ages, as far as anything human can merit that description. Where the classical tradition did not exist neither art nor architecture could derive inspiration from it, so that the whole early period of Gothic, at least, does not come under our consideration here. With the first stirrings of the Renaissance, however, came a change. The great triumphs of classical antiquity gave an impulse to all forms of art in Italy, and from Italy the knowledge of them spread throughout Europe. Raphael crept into the vaults of the Golden House of Nero—the so-called "Grotte"—to study the remains of ancient painting, and to use them for the "grotesques" of the Vatican, which took their name from the as yet unidentified buildings whence they were derived; Michelangelo studied and copied the Laocoon with the same fervour which had inspired Pliny to call it "a work to be preferred to all that the arts of painting and sculpture have produced"; every architect sought among the remains of antiquity motives, architectural or decorative, for use on the buildings which he himself was erecting. Palladio filled Venice and his native Vicenza with works directly inspired by classical art and by the study of Vitruvius, and what we owe to him in England is patent to every student of the work of Inigo Jones and Sir Christopher Wren and his colleagues and disciples, to whom we owe the peculiar glory of London—her city churches.

The study of antiquity, which too often passed into the mere connoisseurship of the dillettantes, had, of course, certain disadvantages. It was no honour that William Kent paid to ancient architecture when he decorated a lady's petticoat with the columns of the Five Orders, and in another field we cannot but agree with Hogarth's repeated complaint that collectors had been "connoisseured out of their senses" until, in their love for the browner schools of Italian art, they could not appreciate pure colour when they saw it. On the whole, however, the love of antiquity led the art patrons of the eighteenth century to the exercise of a wise patronage, notably in the custom of sending promising young students in art or sculpture to Italy to study, and often to bring home, the remains of antiquity, and to see the works of the great masters of painting. It should not be forgotten, moreover, that these same patrons did not, in their love for antiquity, forget to patronise the makers of the best furniture ever produced in England, whether for beauty of design or excellence of workmanship.

At a later period, again, the architecture of the Graecizing school of 1780-1820 was the result of the application to modern architecture of principles newly perceived from the study of Greek antiquities, as revealed in the works of Revett and "Athenian" Stuart, and in the great collections of the Earl of Elgin, just as its contemporary, the Gothic revival, was based upon the study of another class of antiquities, which were destined, for a time, to supersede all other forms of architecture. So strongly, indeed, was Gothic entrenched in England that all the discoveries of the last generation in Greece and the Greek cities of Asia Minor failed to produce any marked effect on English architecture. The tide has turned indeed, but the

* This is only an inference from the character of certain surviving fragments, but it may be regarded as practically certain. About the other two there is no doubt.

inspiration of much modern work comes less directly from classical antiquity than from the classic inspiration of the Renaissance, though the increasing attention paid among students to measured architectural drawings from classical monuments is bound to have its effect. The increasing attention paid to the basilica type of church is also a good sign, and may reassure those who imagine that Gothic is the one truly religious form of architecture. The examples of San Clemente and San Paolo in Rome, with their sacred associations with early Christianity, should furnish a precedent for all who care for the doctrines of the Church in the early centuries, and the great Protestant church of Trèves is a monument almost more impressive, since it was built for use as a Roman building and unhesitatingly taken over for religious uses with the triumph of Christianity. Not that we want literal reproductions of Greek or Roman buildings for any purpose, lay or religious; rather we want a spread of that antiquarian spirit which could study the art of the past and by drinking in its spirit enrich the art of the present. Independence of the past is a dream, whether in art or life; rebellion against the convention of the day is merely a looking, conscious or unconscious, at another facet of the jewel of life; to look deliberately and not out of accident or despair is to have the secret of the past and present equally without which true art can hardly be produced.

NOTES.

Waterloo and Southwark Bridges.

WHILE pulling down the southern pier of Southwark Bridge Messrs. Mott & Hay, the engineers, discovered the relics of the laying of the foundation-stone of the bridge a century ago. The inscription on the tablet runs as follows:—

On the twenty-third day of May, 1815, being the fifty-fifth year of the reign of His Majesty George III. and in the Regency of His Royal Highness George Prince of Wales, the Right Honourable Admiral Lord Viscount Keith, K.B., attended by Sir John Jackson, Bart., M.P., Chairman, and the other members of the Committee of Management, laid the first stone of this Bridge which, connecting the City of London with the Borough of Westminster, is called the Southwark Bridge. The funds for building the Bridge were raised by the subscription of private persons incorporated by Act of Parliament and the work was commenced at the glorious termination of the longest and most expensive war in which the nation has ever been engaged.—JOHN RENNIE, Civil Engineer.

Close to this tablet was found a bottle cased in concrete containing a parchment and coins. As Napoleon subsequently escaped from Elba and took part in the Hundred Days' War, which terminated in Waterloo, the "glorious termination of the longest and most expensive war in which the nation has ever been engaged" was antedated by some months! Old Southwark Bridge cost £800,000, and was opened on March 24, 1819, and we must hope that the new bridges now contemplated will be sufficient for traffic requirements for more than a century; but it is obviously economical to do a thing well, if not in the interest of one generation at least in the interests of the generations which follow. Architecture appeals to us largely because we regard it as being lasting, and we should regret to think that what is built to-day must be swept away to-morrow because it will be inadequate for future requirements.

Alfred Stevens at the Tate Gallery.

A ROOM at the Tate Gallery has just been filled with a loan collection of sketches and studies by Alfred Stevens, the centre of the room being occupied by the full-size model of the equestrian statue which forms the terminal of the Wellington Monument, and one end of the room by his grand decorative cartoon of "Isaiah," intended for one of the spandrels under the dome of St. Paul's. It is a little difficult, in contemplating Stevens's work, to make up one's mind exactly how to place his genius. There was a power in him analogous to that of Michelangelo; his well-known decorative figures for the fireplace at Dorchester House, casts of which are also exhibited, might be ascribed to Michelangelo, and are quite worthy of him; and the "Isaiah" cartoon, though it cannot be said to rival the Sistine Chapel spandrels, has remarkable grandeur of line and great intensity of expression in the head of the prophet. But one cannot avoid the reflection that while Michelangelo made this grand style himself, Stevens was only doing over again what Michelangelo had already done. Stevens is like an Italian Renaissance artist let down into the nineteenth century, and there is a feeling that there is something not quite genuine about this resuscitation of the manner of a great artist of the past. Only an artist of genius, of course, could have done it so well; but it is a resuscitation after all. The elaborate study for the decoration of the wall of a room—numbered 86—is, in the same way, only Renaissance *motifs* revived; it is thoroughly well done, but there is no new or modern suggestion in it. The numerous red chalk studies for figures, though often very slight, are exceedingly interesting; one of the finest is No. 23, a seated figure with the back to the spectator and the head turned in profile; and the two sketches of the head and upper part of a figure, in each case with an arm stretched out (Nos. 2 and 8), are remarkable for energy and vigour of expression.

The "Accident" of Building Sites.

THE *Times* of January 8 gives a summary of Mr. Belloc's Presidential address to a meeting of the Geographical Association at the Conference of Educational Associations held last week in the University of London. Commenting, in their geographical aspect, upon the haphazard position of the sites taken for fortresses, ports, arsenals, capital cities, and the like, he desired to suggest that the old materialist conception of the effect of geographical conditions upon the development of the human race should be replaced with a saner view of historical geography. Why, he asks, were the Law Courts in the Strand? He supposed it was "a job." Why was the London County Council Hall being built on the south side of the river? He defied any man to find a materialist explanation for that. Sound reasons governed the latter choice; there are manifest signs that the example is not thrown away. The Law Courts site was chosen by reason of its propinquity to the Temple and Lincoln's Inn. When it was resolved to break a time-honoured association and to sever the King's Courts of Justice from his palace in Westminster but one question remained—how and where can we best provide for the greatest good? At Pentonville or Primrose-hill? In Southwark or the Strand? On one point Mr. Belloc scores a fairly good hit in his aim for the truth. There were, he observes, not a few streets in the world with all the consequences following in history from their lines which owed their origin to the chance path of a stray cow. He often thought, for example, that Marylebone-lane was made in that way. Mr. Belloc shall take as many cows as he likes and let them go their own ways through many London streets; he shall see them follow, in both direction and length, old footpaths once trodden by cattle, horses, and men, and several of these lying by the banks of the now buried streams. Tortuous river-paths, here and there, have been straightened by the metropolitan improvements made during the past sixty or seventy years. Still, in Jason-court and the upper portion of Marylebone-lane (as also at Hay-hill and the bends of Bruton-street-mews) we yet see the windings of a path—call it cow-path if we will—along the margin of the Ay brook or Tyburn.

Belgian Chamber of Commerce in London.

THE Belgian Chamber of Commerce in London (Incorporated), 24, St. Dunstan's-buildings, St. Dunstan's-hill, E.C., appeals to the British manufacturers and merchants for support. It has rendered valuable services since 1890 to industries and commerce between the two countries. Since the beginning of the war their task has become much more arduous through all the various questions due to the difficulties of trade After the cessation of hostilities they will have very important duties to perform in helping the commerce of the two countries which are now bound up more than ever in ties of mutual trust and friendship by bringing together manufacturers and buyers of goods and in many other ways. But they find great difficulties in carrying out their duties through lack of funds, as the call upon them has been greater than ever before, and their Belgian supporters are unable now to send their usual remittances. Applications for membership and contributions to be sent to the General Secretary, Mr. P. Dorchy, 24, St. Dunstan's-buildings, St. Dunstan's-hill, E.C.

Whitby Abbey.

MR. JOHN BILSON writes to the Press in reference to the damage to Whitby Abbey caused by the German bombardment, and we learn from his investigation that the arch of the west doorway and the walling over it have been destroyed and the wall arcades on either side of the doorway have collapsed, leaving the rubble core of the wall, except a small fragment north and south. The north jamb of the great west window has fallen with the whole of the eastern half of the stair down to below the capitals by the respond pier. The south half of the inner arch of the west window of the north aisle has fallen, and the remaining tracery has been dislocated, and much of the north face of the buttress in line with the west wall of aisle has been stripped off The remaining injuries are, we are told, lesser ones, for which we have reason to be grateful for the Navy rather than any desire on the part of the German authorities to refrain from causing useless and senseless destruction which can never be made good, but which, happily, may remain the only instance of destruction of our historic monuments which our enemies may be able to effect.

The Margaret Macdonald Memorial, Lincoln's Inn Fields, W.C.
Mr. Richard R. Goulden, Sculptor.

THE WINTER EXHIBITION AT BURLINGTON HOUSE.

CHARITY and art somehow do not seem to go well together—in this country, at least. The Loan Exhibition at Burlington House this winter is in aid of the Red Cross and St. John Ambulance Society and the Artists' General Benevolent Institution, and the result is the most curious medley we have ever seen in these Galleries, including a great deal of very mediocre work signed by names little known to fame—as far, at least, as the pictures are concerned. The strength of the exhibition lies mainly in the sculpture (mostly on a small scale) and the black-and-white work. The latter, hung in the small room which (till last year) was always devoted to it in the May exhibitions, is nearly all good, and includes some interesting architectural subjects. Among the rather mixed collection in the water-colour room are also two grand drawings of architecture —Mr. Spiers's "Karnac" and Mr. Reginald Barratt's "Entrance to the Fortress at Gwalior." Mr. Cadogan Cowper's highly-finished "Eve" and the serpent is a good decorative picture.

In the larger Galleries there are, of course, some fine works here and there. In Gallery I. Mr. Moira's "Crystal Vase" forms the accompaniment to a semi-nude figure with a fine head, the whole painted in a very broad style, contrasting curiously with the clean-cut and precise execution of Mr. Henry's half-length, "The Green Kimono," on the opposite wall. Among the pictures obviously painted "for the times," the best and most important is undoubtedly Mr. Jack's "Whither?" in Gallery II.; a group of Belgian fugitives, a powerful work both in the artistic and the pathetic sense. In the large Gallery (III.) it is interesting to find a picture by Mr. Strang, "The Love Song," illustrating his manner before he took to painting, in crude colours, figures as flat as cardboard. Sir E. Poynter's "Nymph of the Stream," an admirably-drawn nude, is, we take it, an old work. There are some good portrait subjects in the room, and the Princess Louise may be congratulated on the careful execution of her small portrait, termed "A Study"; we do not like the colour very much, but there is nothing of the amateur about the execution. After seeing a good many poor landscapes it is a positive joy to come across Mr. Stanhope Forbes's "Skirting the Moor," the work of a painter who knows exactly what he wants to do, and has achieved a perfectly balanced style. And there is Mr. Clausen's little "Afternoon in a London Garden," too, and Mr. Sargent's painting of "The Rialto," with the reflected sunlight from the water striking up on to the dark arch—pictures which might both come under the general heading *choses vues*.

The sculpture exhibits have been distributed through the Galleries, which has been the more easily done as they are mostly works on a small scale. Here we again have evidence of the artistic talent of the Princess Louise, in the study for a monument in St. Paul's to Colonial troops in the Boer War; this, one must admit, is not quite like the work of a thoroughly trained sculptor, but it represents a fine idea; the design is over-weighted by the wings of the principal figure, which are too large for the balance of the whole. Mr. Willis's "The Dawn of Thought" is a pretty and expressive study of the head of an infant. Among the ten sculpture subjects in Gallery II. is Mr. Reynolds-Stephens's little kneeling figure, "Pro Patriâ," for a monument, and a spirited "Drummer-Boy" by Sir W. John. Gallery III. contains no less than twenty-five small works in bronze or marble, nearly all worth attention, and mostly by well-known sculptors. Some of them, we think —Mr. Lynn Jenkins's "Enigma," for instance—have already appeared at the Royal Academy Exhibitions, and Mr. Colton's admirable group, "The Springtide of Life," is, we take it, a reduced bronze replica of a work already exhibited either in marble or plaster. Mr. Jennings's "Paolo and Francesca" is a fine little marble group. Mr. Drury represents "A Refugee" by the head of an infant sucking its thumb. Mr. Hodges' "Boy and Vulture" (bronze) is the largest work, in which the vulture is powerfully modelled; and among the other exhibits in this Gallery is a beautiful head, "A Madonna," by Mr. Mackennal. The other two rooms contain further sculptural exhibits, including the model of Mr. Tweed's statue of "Captain Cook," erected at Whitby, and a circular plaque in low relief by Mr. R. E. Arnold, giving a rather novel reading of the "Flight of Paris and Helen"; the latter sitting astride on a horse, while Paris shoots his last arrow at the pursuers. As a collection of sculpture on a small scale this section of the exhibition is full of interest, and the works are seen much more to advantage by being distributed through the picture galleries than if they were collected in one small room.

THE MARGARET MACDONALD MEMORIAL.

HALLOWED as Lincoln's Inn-fields has always been, we cannot but welcome with gratitude the efforts of the Committee who obtained permission from the London County Council to erect this charming and original seat in the gardens.

Mr. Richard R. Goulden, in the bronze group which surmounts the granite wall, has successfully typified Mrs. Macdonald's character, life, and aims with tenderness and sympathy. She is represented as stretching her arms to shield and comfort a group of children—on the one hand coming over a difficult path, on the other passing out to life confident and strong over a pathway covered with spring flowers, fresh from her influence and comfort. The seat itself is most appropriately made of teak from the old battleship *Indefatigable*. The bronze casting was by Mr. A. B. Burton, Thames Ditton. The granite, of a new kind which has, we are informed, not been used before in London, was supplied by Messrs. Newall, Dalbeattie. The seat was made from drawings by Messrs. Castles', Grosvenor-road, S.W. We should like to add that Mr. Goulden is now holding a commission in the Royal Engineers.

ARCHITECTURAL SOCIETIES.

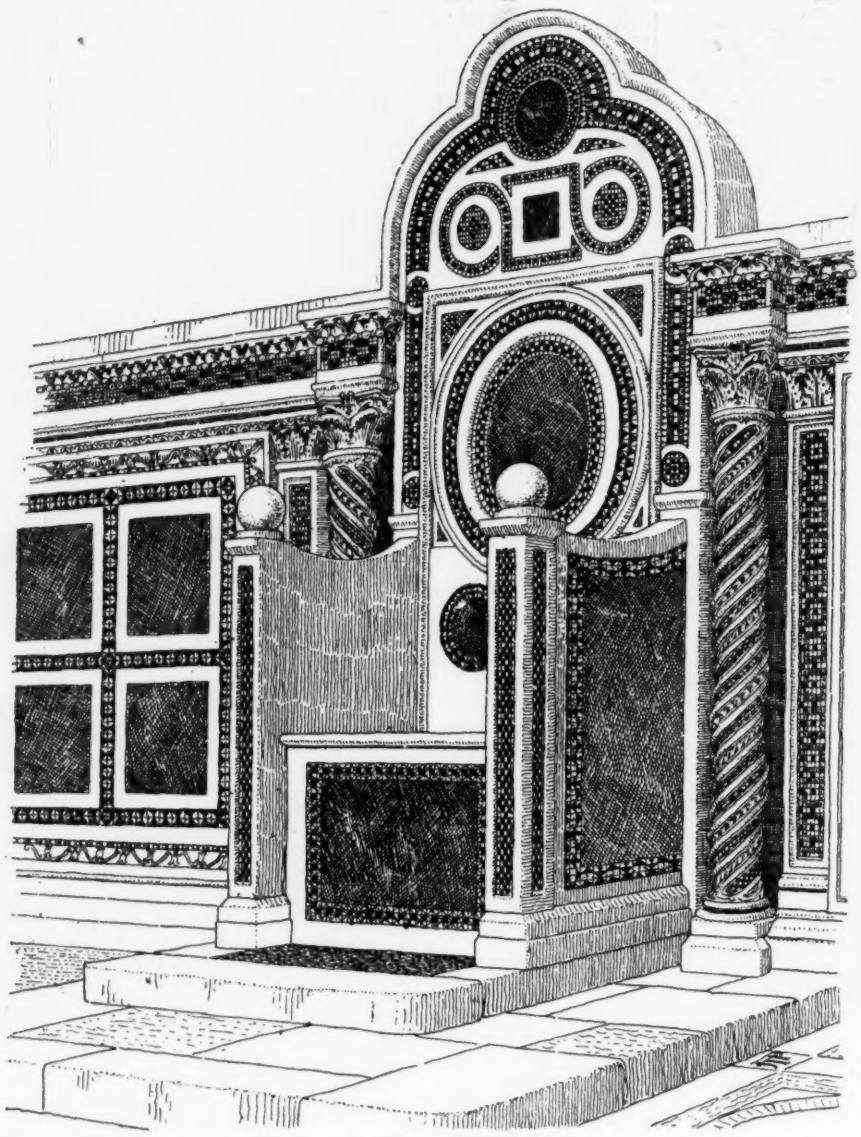
Dundee Institute of Architects.

The annual general meeting of the Dundee Institute of Architects was held in the Institute Rooms, 43, Nethergate, Dundee, when the following office-bearers were elected for the ensuing session:—President, Mr. Charles G. Soutar, Dundee. Vice-President, Mr. James Findlay, Dundee. Council—Messrs. A. Grainger Heiton, Perth; Alexander Symon, Arbroath; G. D. B. Shepherd, Dundee; George Pyott, Dundee. Secretary, Mr. William Salmond, 6, High-street, Dundee. Treasurer, Mr. David L. Allan, 5, Whitehall-street, Dundee.

BOOKS RECEIVED.

TOWN PLANNING. By George Cadbury, jun. (London: Longmans, Green, & Co. 7s. 6d. net.)

BUTTERWORTH'S WORKMEN'S COMPENSATION CASES. Vol. VII. By Judge Ruegg, K.C., and Douglas Knocker. (London: Butterworth & Co. 30s.)



Pontifical Throne in the Basilica of San Lorenzo, Rome.

THE PONTIFICAL CHAIR OF SAN LORENZO VIA TIBURTINA, ROME.

THE festival of "The Chair of St. Peter at Rome," although only instituted in 1518, is undoubtedly a very ancient survival, and points not only to the veneration paid to the two seats in Rome still associated with the Saint's name, but to the importance generally attaching to the episcopal chairs to be found in all the earlier unaltered churches both in that city and elsewhere.

Of the episcopal chairs remaining in position in Roman churches perhaps the earliest is that in the apse of St. Clemente, set up early in the thirteenth century, but consisting—in part, at least—of a more ancient one due to Pope Hormisdas seven hundred years earlier; but the most complete and beautiful is that of St. Lorenzo, of which we give an illustration.

The presbytery of the basilican church of San Lorenzo fuori le Mura was originally an independent basilica erected at the end of the sixth century by Pope Pelagius II., mainly out of fragments of ancient buildings, including some splendid columns of pavonazzetto; but it was entirely rearranged in 1216 by Pope Honorius III., who added to it the large nave, making the connection between them through the ancient arch of triumph by destroying the original apse. The high altar of the older church was, however, left in its original position, for we can still read, engraved on the beautiful canopy which covers it, an inscription recording its construction in 1147 by John, Peter, Angelo, and Sasso, the sons of the marble mason Paul. The destruction of the apse, which no doubt contained the original episcopal chair, necessitated the rearrangement of the choir, but as Honorius did not live long enough to complete this it was carried out under his successors, although we find that it was not until the middle of the thirteenth century that the new throne was erected. On the back of the screen, of which the present chair forms a part, is an inscription showing that it was set up in 1254 during the reigns of either Innocent VI. or Alexander VI., probably at the charges of Cardinal Fieschi, a militant brother of the former who is buried in an ancient sarcophagus standing in the nave of the church. It is unfortunate that the inscription gives us no information as to the artist who designed this beautiful work; but as there were other Cosmati mosaics, now destroyed, in the building, and as Cosmas was at the time at work in Rome on the Sancta Sanctorum and elsewhere, it may perhaps be attributed to him.

THE CHURCH OF ST. CHARLES THE MARTYR, FALMOUTH.

THIS extremely interesting church is one of the handful which bear this dedication, and does so more appropriately than those at Tunbridge Wells or Plymouth, since it belongs to the county which, more than any other, won the King's thanks for its loyalty, and to the town which received its charter from Charles II. Since, however, it was built after the death of Charles I. it lacks that strange and interesting feature of so many Cornish churches—the Letter, written in uniform yellow lettering on a large square board, which begins, "C.R. to the inhabitants of the County of Cornwall," and in which the King desires "to perpetuate to all time the memory of their merits, and of our acceptance of the same, and to that end." The Letter concludes: "We do hereby render our royal thanks to that our county in the most public and lasting manner we can devise, commanding copies hereof to be printed and published, and one of them to be read in every church and chapel therein, and to be kept for ever as a record in the same; that as long as the history of these times and of this nation shall continue the memory of how much that county hath merited from us and our Crown may be derived with it to posterity."

The church now possesses a memorial of its patron saint in a fine portrait of the King, presented "by a few admirers of the many virtues of his sacred Majesty King Charles the First" in 1913; but its present claim on our attention is architectural. Though usually dismissed as ugly, or at best rather poor, it is one of the rare examples of the Gothic

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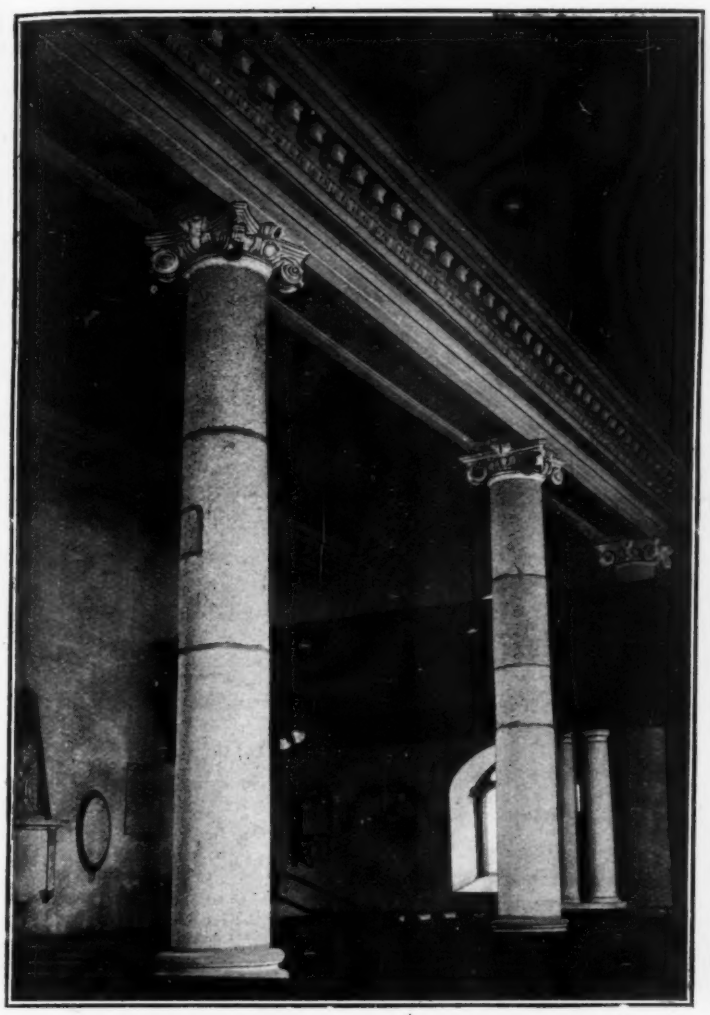


St. Charles the Martyr, Falmouth: Looking West.

St. Charles the Martyr, Falmouth: Capital, Cornice, and Plasterwork.

tradition not revived, but persisting into the latter half of the seventeenth century, as was only possible in a town remote from classical influence and using the hard granite of local tradition. It was built in 1663, two years after the granting of a charter to the town, yet though the tracery of the side windows might be a hundred and seventy years earlier,* the flattened curves of the round dripstones and the round-headed doors, with their typical panels and early fanlights, tell, like the interior, a different tale. The church consists of a nave and two aisles, all with barrel roofs, the nave only slightly higher than the aisles and divided from them by a plain deep cornice and entablature resting on pillars of a severely classical order, strongly suggestive of those Roman churches, such as Santa Agnese, in which actual classical columns are used. The Falmouth columns, six a side, consist of eight of pale rose granite and four of serpentine, and two on either side of the chancel, all of the Ionic order; those on either side of the altar are square pilasters, the rest are round, and, of course, free. There is a large and well-designed gallery across the west end. The chief feature of the church, apart from the curious contrast of the apparently early Perpendicular windows—for so they appear, seen from within—with the classical columns and barrel roofs, is the series of bands, six in number, that span the barrel roofs of nave and aisles. They are remarkable examples of fine plasterwork, about a foot in width, and consist of elaborate wreaths of fruit and flowers—not dull repetitions of each other, but fresh and living studies, natural enough for truth to life, conventional enough for decorative art. Less loosely constructed than Grinling Gibbons's work, in higher relief than Wren commonly made use of, they represent a kind of art none too common in England, and deserve close study both for themselves and as monuments of a little noticed period of English ecclesiastical art.

The feature of the church that is apt to strike the casual visitor is the disproportionately tiny tower, which would be too small if it were square, and which as it now stands gives the impression of having been cut in half from east to west. Such as it is, however, it is part of the original design, and its round windows and battlemented top are very good; and it was not without satisfaction that the writer gathered from a notice in the admirably kept church that a previous scheme for the rebuilding of this tower was now abandoned. Falmouth is a quaint place, and is not without associations, but it cannot afford to tamper with its history and to destroy or to alter beyond recognition a church whose interest is of so rare an order.

* This does not apply to the three windows facing east, which are of the familiar late seventeenth-century form.

INQUESTS ON NON-FATAL FIRES.

WE have endeavoured to keep before the public the advantages of the policy pursued by the Corporation by means of the provisions of the City of London Fire Inquests Act, 1888, of officially investigating fires which are not attended with loss of life, as well as those which prove fatal. Dr. Waldo, the City Coroner, on December 18 last held an inquiry which revealed conditions deserving of official attention, and which suggest that an extension to the remainder of London of the City method of holding inquests in cases of non-fatal fires would be useful We believe that the *Morning Advertiser* was the only ordinary newspaper which sufficiently realised the importance of the case to give a report of it, and we regret that the Press at large should generally confine its comments upon these matters to occasions rendered more or less sensational by loss of life or some other outstanding feature. It would be a public service if the daily papers would notice such inquests more frequently, as doing so would doubtless help in attaining the desired end of locking the stable door before

St. Charles the Martyr, Falmouth: Looking East.

the stealing of the steed. The great increase in the height of buildings and in the numbers of people employed in them, together with the increasing proportion of female employees, and in some cases the extreme inflammability of goods dealt with (such as celluloid), tend to give increasing importance to the provision of proper means of escape in case of fire and to the maintenance of such means of escape in a constantly available state.

The inquiry to which we are now directing attention had reference to a fire which occurred on December 11, 1914, at Nos. 39 and 40, Hutton-street, Salisbury-square, E.C., occupied by Messrs. R. J. Tanner & Co., Ltd., wholesale stationers. A fire occurred on the same premises eleven years ago, and only two days before the outbreak of December 11 another fire was reported from Messrs. Tanner's head-quarters in Dorset-street. There was no suspicion of arson. The fire at Dorset-street was admittedly due to a light being thrown down on the ground floor, and Superintendent Coates (of the London Fire Brigade) believed the Hutton-street fire to be due to the throwing down of a light or cigarette, although there was no direct evidence available. We presume it is impossible to instil into some minds any sense of moral responsibility in the handling of matches, and the certainty that the culpably careless will be always with us renders the more imperative the duty of endeavouring to ensure the escape of their possible victims.

At Hutton-street the number of persons employed was less than forty, and therefore the premises escape the fire provisions of the Factory and Workshop Acts, 1901 and 1907; but, as there were more than twenty persons, they would come under those of the London Building Acts (Amendment) Act of 1905.

The existing means of escape were two staircases, but the small back stair was blocked, and the landings of the other stair were partly occupied by piles of paper. Mr. Coates stated that if the landings had been clear the fire could have been confined to the staircase and prevented from entering the second floor. For the proprietors it was claimed that the fact of the loopholes being always available during working hours made the means of escape, taken as a whole, reasonable.

The jury, after examining the premises, considered that the means of exit required improvement, and that the staircases and landings should be kept clear of stock. It was also suggested by the District Surveyor that a roof exit was desirable.

We think that the keeping clear of all means of escape should be an enforceable condition in every place where workpeople are employed. The provision of roof exits, where reasonably practicable, is a valuable precaution, but we can hardly emphasise too strongly the necessity of seeing that there is a way of escape from the roof for persons who may leave the interior by the roof exit. In buildings provided with fire-resisting roofs and with duplicate staircases well removed from one another and constructed as now commonly required under the Factory and Building Acts it would generally suffice if persons emerging on to the roof by one stair could readily descend by the other; but, of course, this implies that doors leading to the roof could be opened from outside as well as inside, which in some cases might be objectionable. The height of the building, both positively and in relation to those adjoining, together with the possibility of easily placing the fire-escapes of the Brigade against the building, are also points that should be kept in view in considering the advisability of constructing roof exits.

IMPERIAL COLLEGE OF SCIENCE AND ROYAL SCHOOL OF MINES.

THE new buildings for the Imperial College of Science include the Royal School of Mines, Metallurgy, and Geology and the extension to the Central Technical College in Exhibition-road. These buildings are erected on sites given for the purpose by the Commissioners of the '51 Exhibition.

The buildings occupy a corner site and extend from the late Alfred Waterhouse's building for the Central Technical College to the late Sir Arthur Blomfield's building in Prince Consort-road for the Royal College of Music.

The ground floor plan (see our last issue, p. 34) indicates the general disposition of the departments of mining, metallurgy, and geology of the Royal School of Mines and the engineering extension of the Central Technical College (City and Guilds Institute), the gift of the Goldsmiths' Company.

The mining shed is 200 ft. by 120 ft., and contains two complete full size mining plants, fitted up under the advice of Mr. Walter McDermott, the whole of the machinery and equipment being presented by the Bessemer Memorial Committee, and is considered to be the most complete of its kind in the country. At the west end of the shed and immediately under the assay laboratory, and also in the assay laboratory, are the metallurgical furnaces fitted up by the Morgan Crucible Company.

The rooms on lower ground and ground floors are given over to metallurgy, and include a lecture theatre, advanced laboratory for electric metallurgy, specialised assay laboratory, pyrometry, micrography, professors' rooms, classrooms, etc.; further accommodation for mining is provided on the first floor, and includes two lecture theatres (one of surveying), instrument-room, museum, drawing office, departmental library, class-rooms, and workshops.

Geology occupies the second floor and about half of the third floor, and comprises lecture theatre, three large drawing offices, museum, chemical and research laboratories, rooms for paleontology, petrology, mineralogy, rock cutting and economics, laboratories, and a library.

A large examination hall is also situated on the third floor.

The extension of the Central Technical College, known as the Goldsmiths' Wing, provides for a large top-lighted structural laboratory, 150 ft. by 112 ft., divided into four bays, each bay being equipped with a travelling crane; this, with a hydraulic laboratory extending to two floors, are the great features of this department. The latter is equipped with large sumps and channels controlled by sluice gates and weirs. Water supply to these is provided from two large tanks situated one in the first floor and one in third floor; three independent tanks are provided with pumps to enable the water to be reused. This laboratory is fully equipped for its purposes, comprising the study of hydraulic turbines, centrifugal pumps, water motors, etc.; a large laboratory for railway engineering is provided, also classrooms for marine engineering and naval architecture; the whole of the third floor is given over to surveying.

This work is under the direction of Professor W. E. Dalby, the Dean of the College.

The unit adopted in setting out this building is 12 ft.; the partitions are of a solid and light construction, made easily removable so that any future rearrangement of rooms may be made as required.

The external elevation has been kept simple, and depends for its effect on the repetition of subsidiary vertical features dominated by main cornice and attic story. The superstructure was erected by Messrs. Killby & Gayford, while Mr. H. W. G. Tanner is the clerk of works.

The hot-water heating is by Messrs. Ashwell & Nesbit and the Brightside Foundry and Engineering Company, the electrical work by Messrs. V. G. Middleton and Messrs. Tyler & Freeman, the lifts by Messrs. Waygood-Otis, Ltd., and the faience by Mr. A. Whitehead, of Leeds. The building, the architect for which is Sir Aston Webb, K.C.V.O., C.B., R.A., was illustrated in our last issue.

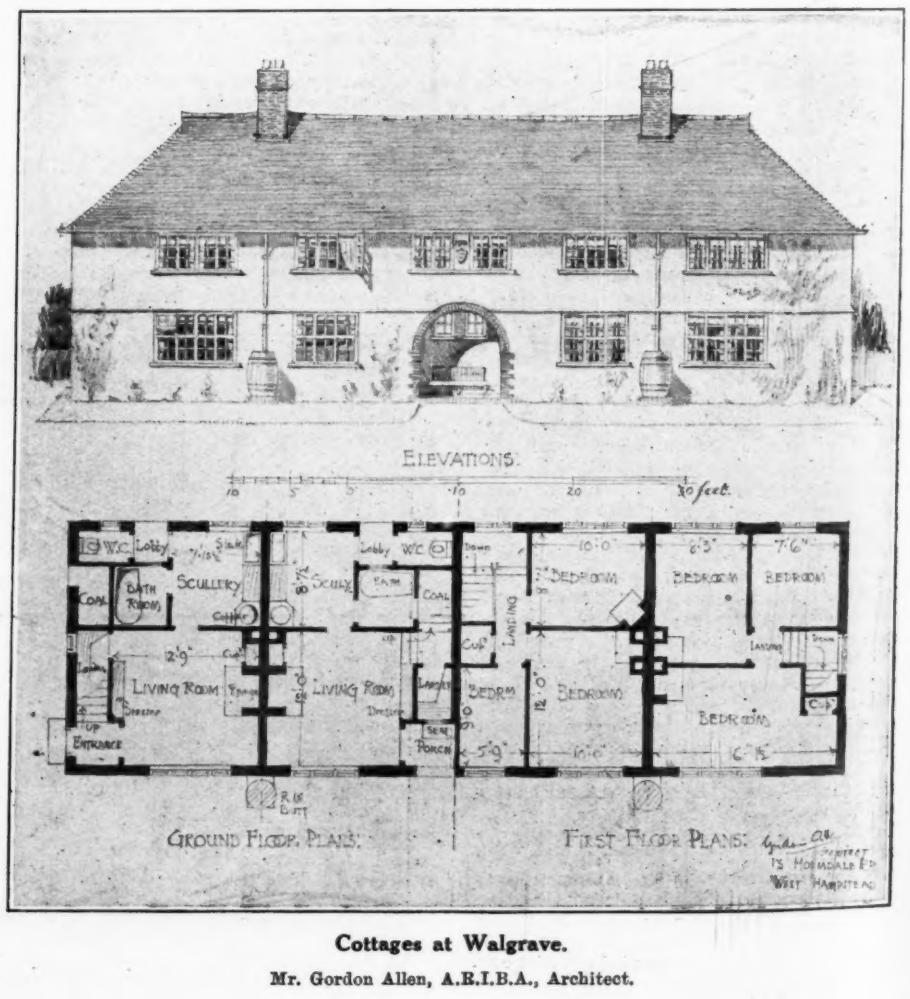
COTTAGES AT WALGRAVE.

THESE cheap cottages are unusual in plan, as they contain a small bathroom. The upper story is of brick and roughcast, with white-washed brick below. Mr. Gordon Allen, A.R.I.B.A., was the architect.

THE SOCIETY OF ARCHITECTS.

FROM the Report of the Council of the Society of Architects for the year ended October 31, 1914, we quote the following, which may be of interest to our readers:—

"The Board of Professional Defence is an Advisory Committee formed to assist your Council in dealing with cases in which members are personally concerned, involving matters beyond the scope of the Practice Committee, and embracing questions of principle affecting the profession generally. It is perhaps a matter for congratulation that the necessity for calling this Committee together has not arisen during the past session; but its existence,



Cottages at Walgrave.

Mr. Gordon Allen, A.R.I.B.A., Architect.

together with that of the nucleus of a substantial defence fund, may be taken as an earnest of your Council's desire that the services and resources of the Society shall be made available to the utmost reasonable extent for the benefit of the members and, through them, of the profession.

Statutory Registration of Architects.

In November, 1913, your Council completed its revision of the Society's draft Registration Bill, and the document was settled in conference with Sir Alfred Cripps, K.C., M.P. (now Lord Parmoor). The Bill was then published in the Society's *Journal*, and was issued to the professional Press and made public generally, with a view of inviting observations and criticisms thereon. As a result of this publicity, a number of useful opinions and suggestions were received and noted for future consideration.

A copy of the Bill was also sent to the Councils of interested professional bodies. No objection was raised by them on the question of principle, but the Auctioneers' Institute sought to have that body scheduled in the Bill, and the Institution of Municipal Engineers thought their members were not sufficiently protected. Your Council did not see its way to meet the wishes of the Auctioneers' Institute, and consider that the members of the Institution of Municipal Engineers were already sufficiently covered, though your Council was prepared to discuss the matter with the Institution.

The Society's proposals attracted a good deal of attention among other professions, notably the dentists, whose organ, the *Dental Surgeon*, pointed out that if certain sections of the Dentists Act (relating chiefly to restriction of the title of Dentist to qualified persons, and recovery in a Court of Law of charges for professional services) had been drawn on the lines of similar clauses in the Society's Bill the present position of affairs in the dentists' profession would never have come about.

Some useful criticism was also received from the *South African Architect*, based on experience of the working of the Transvaal Architects Act, which it will be remembered the Society was to a considerable extent instrumental in securing. The journal in question holds the view (on which some difference of opinion exists in the profession in South Africa) that a Registration Bill should confine itself entirely to Registration matters, and should not include any provision for educating the architect before registering him, the point being that architects should not be taxed to assist in further filling an already overcrowded profession. Your Council, on the other hand, considers that one of the advantages of Statutory Registration would be that an Act such as that proposed by the Society would at once define a standard of architectural education, and that everyone desirous of taking up the profession in the future would know what was required of him before spending time and money in endeavouring to qualify.

At a meeting held on January 5, 1914, the general body of the R.I.B.A. decided not to proceed with a Registration Bill, at any rate for the present, but to apply for an extension of their Charter to enable them to confer the title of "Chartered Architect" upon all persons passing a stated examination. It was understood that this decision was come to owing to the R.I.B.A. Council having been notified by their legal advisers that the Institute could not promote a Parliamentary Bill on this subject, because of certain constitutional disabilities under which the non-corporate class of Licentiates were suffering.

It then became, from the Society's point of view, a question of voluntary *versus* statutory Registration, the essential difference between the Registration proposals of the R.I.B.A. and of the Society being that the former favoured a policy of voluntary Registration within the Institute, and the latter a policy of statutory Registration for every member of the profession, whether belonging to any architectural body or not.

The feeling of some of the members of the Institute on the Charter question may be gathered from the fact that Committees of Associates and Licentiates were formed with a view of watching their own interests.

Your Council had in the meantime taken steps to submit a counter petition to the Privy Council in the event of the Charter proposals being proceeded with.

Last March the then President of the R.I.B.A. circularised the allied societies to the effect that the Council of the Institute had decided to oppose the Society's Registration Bill on the grounds that it was detrimental to the interests of the Institute, and conflicted fundamentally with their new policy of Registration by Charter. Your Council thereupon issued a counter statement through the professional journals and direct to the provincial societies, showing at a glance the difference between the proposals of the two bodies.

About this time the Auctioneers' and Estate Agents' Institute presented a Bill to Parliament, the object of which was to establish a register of persons practising as auctioneers or estate agents dealing with real estate and to prescribe the qualifications for admission to the register.

The effect of the measure, if it became law, would be that an architect who is not a member of the Society of Architects or of one of the other scheduled bodies, would not be allowed to make a valuation of real property for a consideration unless he was registered under the Act. As there are a number of architects who do not belong to the Society or any other architectural body, and most of them have to make valuations of property from time to time for various purposes, they are considerably affected by the proposed Bill. In order to continue to make these valuations they would have to register under the Act as auctioneers and estate agents, and pay an additional tax for registration fee and annual licence. The Society of Architects is one of the professional bodies scheduled in the Bill as being exempt from the operation of the Act. Here is one instance of the advantage of membership in a recognised professional body which is able to look after the interests of its members.

The outbreak of the war has put a stop for the present to the promotion of the Institute Charter in the Privy Council and of the Society's Bill in Parliament. In regard to the latter, although the Parliamentary procedure has not been gone on with, every opportunity is being taken by the Society to further prepare the ground for future propaganda, should it be necessary to resume the promotion of the Bill in Parliament after the war. The hope has been expressed, and it is one in which your Council concurs, that as the war has had the good effect of drawing together the members of the architectural profession without reference to architectural politics, that this happy state may continue, and that when peace is declared it may relate not to one kind of war only, and that some method may by then have been arrived at of settling any little differences in regard to the means to be adopted in attaining the end which both the Soicety and the Institute have in view.

Standard Documents.

Following an announcement in the last annual Report, your Council is now able to say that a model form of conditions of contract has been drafted for the Society by Mr. W. Valentine Ball, barrister-at-law, based on suggestions made after long and careful inquiry into the matter by your Council. This matter is to be the subject of discussion at the December meeting, and it is anticipated that by the time this Report is presented the form of the document will be practically settled. Your Council has also drafted, under legal guidance, a number of forms for party wall and other notices under the London Building Act. It is hoped that these documents, more particularly the form of building contract, may be found of practical service to the members.

Tenders in War-Time.

The Institute of Builders approached your Council regarding a proviso which the Institute had authorised its members to endorse on all future tenders for building undertakings, with a view of providing for (*a*) the adjustment of any account for extras, due to an increase in the cost of labour or materials owing to the war, and (*b*) a reasonable extension of time for any delay in obtaining labour or material owing to the same cause.

The question was also raised as to the liability or otherwise attaching to contracts for any damage caused by the King's enemies to works in progress. The suggestion was that a provisional sum should be reserved to cover the cost of insurance.

Your Council saw no objection to the principle of insurance against war risks, but it raised some objections to the form of the proviso and proposed a revised clause which the Institute of Builders has circulated to its members.

Your Council has received a number of inquiries from members relating to the difficulty of obtaining building materials owing to the war, and is in negotiation with the Local Government Board and other bodies which are conducting inquiries into the matter.

Northern Junction Railway Bill.

At the request of the Garden Cities and Town Planning Association, your Council appointed a representative to consider a proposition that the Society should join in a manifesto for opposing the Northern Junction Railway Bill. Mr. Percy Tubbs represented the Society, and as a result of his Report it was decided to take no action in the matter.

Attendances on Subcontractors.

Your Council was approached by the Surveyors' Institution, who drew attention to the objection against accurate estimating imposed by the practice of leaving in bills of quantities, the cutting away and attendance on subcontractors to be priced in a lump sum by the principal contractor. As the ability of the Surveyors' Institution to deal with the subject of complaint depended largely upon the information placed at its disposal by architects, the co-operation of the Society of Architects was invited.

The matter was fully considered by your Council, which found itself in sympathy with the proposals of the Surveyors' Institution in principle, but suggested modifications in the method of carrying them into effect. The matter was still under negotiation at the end of the session.

First London Atelier of Architecture.

Early in the session the Beaux-Arts Committee voluntarily released the Society from its financial guarantee, with due acknowledgment of the obligations to the Society which the Committee was under, in enabling it to carry on its work and become firmly established. The Committee asked that the privileges of using the Society's premises for its meetings and the clerical staff for its work might be renewed. Your Council gladly renewed these facilities, and in addition made a second donation of £100 from the Society's funds in furtherance of the Committee's work.

The members of the Society on the Beaux-Arts Committee include Messrs. Percy B. Tubbs, E. C. P. Monson, R. Goulburn Lovell, A. Alban H. Scott, Thos. Wallis, L. Sylvester Sullivan, and the Secretary. The atelier has now become firmly established and is recognised, even by those who at one time opposed the scheme, to be carrying on the traditions of the Beaux-Arts method of architectural training on the right lines. Your Council is satisfied that its action in bringing into existence the Beaux-Arts Committee and materially assisting in this work is one of the best things the Society has done, and is justified by results. There is little to show for it from a material point of view, but the influence which the atelier is having on the future of architecture in Britain is already being felt and will undoubtedly be to the permanent good of the profession and the community.

The growth and development of the atelier has been such that it was decided by the Beaux-Arts Committee to establish a second atelier in London, and premises had been secured when the outbreak of war put a stop for the present to any further progress in this direction. The Sous Patron, M. Chaurès, was recalled to France for military duty, and all eligible members of the atelier offered themselves for enlistment in the forces of the Crown, and those who were fit were accepted.

The atelier is in the meantime carrying on its work successfully from the educational point of view, but under some material difficulties, and it may not be out of place to mention that architects who are interested in the movement can become members of the atelier on payment of a subscription of £1 1s., and so greatly assist the Committee in tiding over a difficult period. Many architects have taken this method of showing their approval of the principle upon which the atelier is conducted.

Memorial to the Late R. Norman Shaw, R.A.

The Bronze Medallion, designed by Professor W. R. Lethaby, and set up on the Embankment Façade of the Metropolitan Police Office, New Scotland-yard, of which the late Mr. Shaw was the architect, was unveiled by the Right Hon. the Earl of Plymouth, on July 13. The Society, as a subscriber to the fund, was represented.

Clerks of the Works.

At the request of the Incorporated Clerks of Works Association of Great Britain, a Committee of your Council received a deputation from that body with a view to ventilating some questions affecting the interests of clerks of the works, more particularly in regard to the rates of wages offered to them by public bodies. It was thought that by enlisting the sympathy of architects, who were able to appreciate the points raised, something might be done in getting public bodies to see the advantage of offering such a wage as would secure the best available services.

The principle involved applies not only to clerks of works but to architects and members of other professions, and your Council was able to assure the deputation that they were in accord with them on this point. Another question raised by the deputation was as to who was liable in the event of injury or fatality to the clerk of the works in the discharge of his duty. Your Council, on subsequently going further into the matter, was advised that an injured person can claim for injury under Common Law, the Employers' Liability Act or the Workmen's Compensation Act, and that therefore building owners should insure against this risk. The contract of service should be between the building owner and the clerk of the works, and the architect should in his own interests make sure that he does not incur any liability in the event of the building owner becoming insolvent or from any other cause.

Architects and the War.

Within a few days of the outbreak of war a meeting of architects open to the whole of the profession was held at Conduit-street to consider the best way in which architects might offer their services to the nation during the crisis. Members of the Society were specially invited to attend the meeting, and a number of them did so.

Several resolutions were passed, and a Committee was appointed to carry them into effect, the Society being represented by the President, the Vice-Presidents, and the Hon. Secretary.

Two Sub-Committees were subsequently formed, one for dealing with benevolence and the other with administration. Your Council held a meeting immediately afterwards, and unanimously decided to support the movement by placing at the disposal of the Architects' War Committee the Society's premises and clerical staff for the use of any of the Sub-Committees. Further, it voted a grant of 100 guineas as a contribution to a fund to be formed for providing paid work for architects whose means of livelihood were stopped by the war. It also suggested the formation of a Professional Employment Sub-Committee for the administration of the fund, and outlined a scheme to enable architects in distress owing to the war to earn a living wage by doing work of a kind which would be a benefit to the community, rather than have to depend upon benevolent aid. Your Council also undertook to appeal to members of the Society for financial assistance. These offers, donations, and proposals were accepted and adopted by the Architects' War Committee, and the first meeting of the Benevolent Sub-Committee was held at the Society's premises, on September 23, and has been continued every week since. The Society is represented, not only on the War Committee, but on all the Sub-Committees. The Benevolent Sub-Committee has developed into the Professional Employment Committee. Mr. Percy B. Tubbs, F.R.I.B.A., M.S.A., is the Vice-Chairman of this latter Committee, and Mr. C. McArthur Butler is the Acting Hon. Secretary. The Society is also represented by other members on this Committee, and on the Executive and General Purposes Committee, the Selection Committee, and the Main Committee (Architects' War Committee).

The Professional Employment Committee is developing a scheme of civic surveys under the guidance of Mr. Lanchester, by which means it is hoped to offer employment to architects and surveyors and others. In the meantime applications have been coming in from all parts of the country, from architects affected by the war, who desire employment, and the Committee have been able to employ a number of them on useful work. One only need be mentioned as typical, that of replacing the collection of drawings and statistics on town planning, etc., belonging to Professor Geddes. These were lost in transit to Madras (where Professor Geddes is lecturing), owing to the ship in which they were carried being sunk by the *Emden*. The fund placed at the disposal of the Committee by the Society, augmented by members and others, has so far enabled the Committee to deal with some of the more pressing applications, but it is obvious that a much larger sum will be required if anything on an adequate scale is to be attempted. Your Council commends the matter to the generous consideration of members who have not yet subscribed. They will have the satisfaction of knowing that their money will be spent in productive work, the execution of which will enable distressed members of the profession to tide over a bad period. The Professional Employment Committee does not give benevolent aid, but refers any cases requiring assistance of this kind to the Architects' Benevolent Society.

The state of war has naturally raised many questions of importance to the architectural profession in connection with contracts which are of too complicated a nature to be more than briefly referred to in this Report. Your Council is dealing at every meeting with one or other of the points raised, such as prices, war risks, etc., and generally is doing everything in its power to assist members at the present crisis.

The Society was also invited to appoint a representative on the Professional Classes War Relief Council. Mr. Percy B. Tubbs was nominated, and is taking a very active part in the work of that body."

GENERAL NEWS.

Professional Announcement.

Mr. Raymond Unwin, F.R.I.B.A., having accepted the post of Chief Town Planning Inspector to the Local Government Board, has handed over to his partner, Mr. Barry Parker, F.R.I.B.A., of 32, Bedford-row, London, W.C., and Norton Way, Letchworth, Hertfordshire, his town planning and architectural practice and all interest therein.

Appointments.

In view of the retirement of Mr. C. A. Harrison from the position of engineer for the northern division of the North-Eastern Railway at Newcastle, the directors have appointed Mr. C. F. Bengough, York, as engineer for the whole line. Mr. Bengough has hitherto acted as engineer for maintenance and engineer for the southern division. Mr. Harrison will continue to act as Consulting Engineer. The directors have also appointed Mr. Arthur Pollard as architect of the company in place of Mr. W. Bell, who retired at the end of the year after fifty-seven years' service.

Fire Precautions at St. Paul's.

Canon Alexander, Treasurer of St. Paul's Cathedral, in discussing with a Press representative the scheme which has just been completed for coping with any possible outbreak of fire in the building, said, "Fire experts say that St. Paul's is now as safe as it can be made." The work has occupied between two and three years, and has cost £5,000. The scheme includes a system of fire mains and hydrants, accompanied by apparatus for forcing water to a great height.

Professional Classes War Relief Council: Mansion House Meeting.

Under the Presidency of the Lord Mayor a meeting will be held at the Mansion House to consider the problem of distress among the professional classes, at which the Archbishop of Canterbury and Sir Edward Clarke, K.C., will be the principal speakers. The Lord Mayor is President of the Professional Classes War Relief Council. The meeting will be held on February 16, at 3 p.m.

New Thames Bridges.

The Thames Conservancy have provisionally agreed to plans of a new bridge of reinforced concrete to be constructed across the river between Goring and Streatley. They have also passed plans for two proposed new bridges between Reading and Caversham.

"Immingham and Grimsby Tide Table, 1915."

We have received from the Great Central Railway Company a copy of the "Immingham Tide Table for 1915." This neat booklet, which has been produced in pocket-size, gives the tides at Immingham for each day of the year, in addition to other useful information respecting the ports of Immingham and Grimsby, which have been enormously developed by the Great Central Railway. Copies of the "Tide Table" will be sent free on application to Great Central Railway Publicity Office, 216, Marylebone-road, London, N.W.

Alfred Stevens.

There is now in the Tate Gallery (says the *Times*) a most interesting exhibition of cartoons, paintings, and drawings by Alfred Stevens, which were made for the decoration of the dining-room at Dorchester House, and which have been lent for this exhibition by Sir George Holford and Mr. Alfred Drury. The chief of these, the larger cartoons and unfinished paintings, are "the last important addition likely to be made to the harvest of his work," and they are so important that they will even add to his reputation.

The "Journal of Decorative Art."

The *Journal of Decorative Art* for January contains a large amount of interesting matter. We learn that in consequence of the war new pattern books of wallpapers are not to be issued this year; last year's patterns will therefore serve for the present year, which will be an interesting experiment, and one which may possibly form a good precedent. Heraldry forms the subject of a long article, and Mr. Arthur Wilcock's paper, read before the Institute of British Decorators, is given in *extenso*. The number is copiously illustrated some blocks being given of recent decorative work carried out by Messrs. Martyn & Co.

COMPETITION NEWS.

It must be understood that the following paragraphs are printed as news, and not as advertisements; and that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

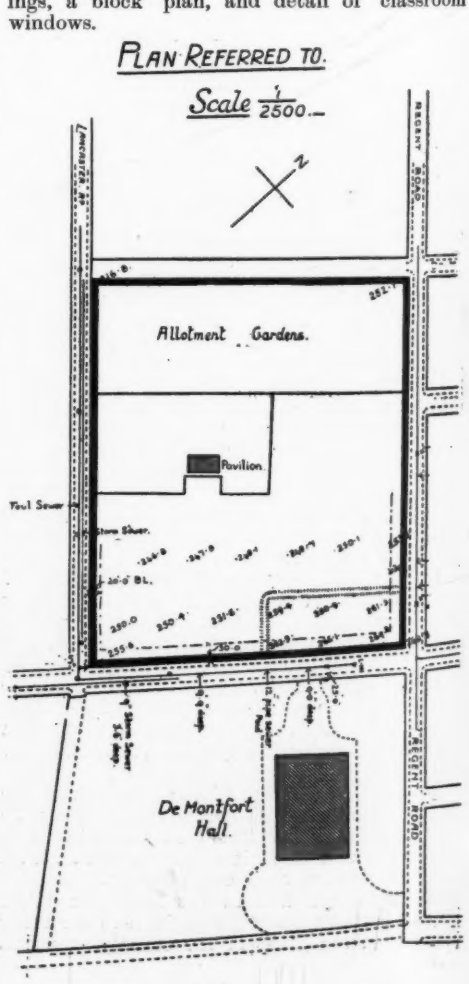
The list of current Competitions is printed on page 73.

Conditions of Competition for the New Wyggeston Grammar School for Boys, for the Corporation of Leicester, Limited to Architects Practising in Leicester.

The site is on the piece of land belonging to the Corporation, adjoining Regent, Victoria, and Lancaster roads.

Premiums of £100, £75, and £50 are offered for the three best designs, and the assessor appointed is Mr. George Widdows, F.R.I.B.A. Designs to be sent in on or before April 30.

Designs to be illustrated by ⅛-in. scale drawings, a block plan, and detail of classroom windows.



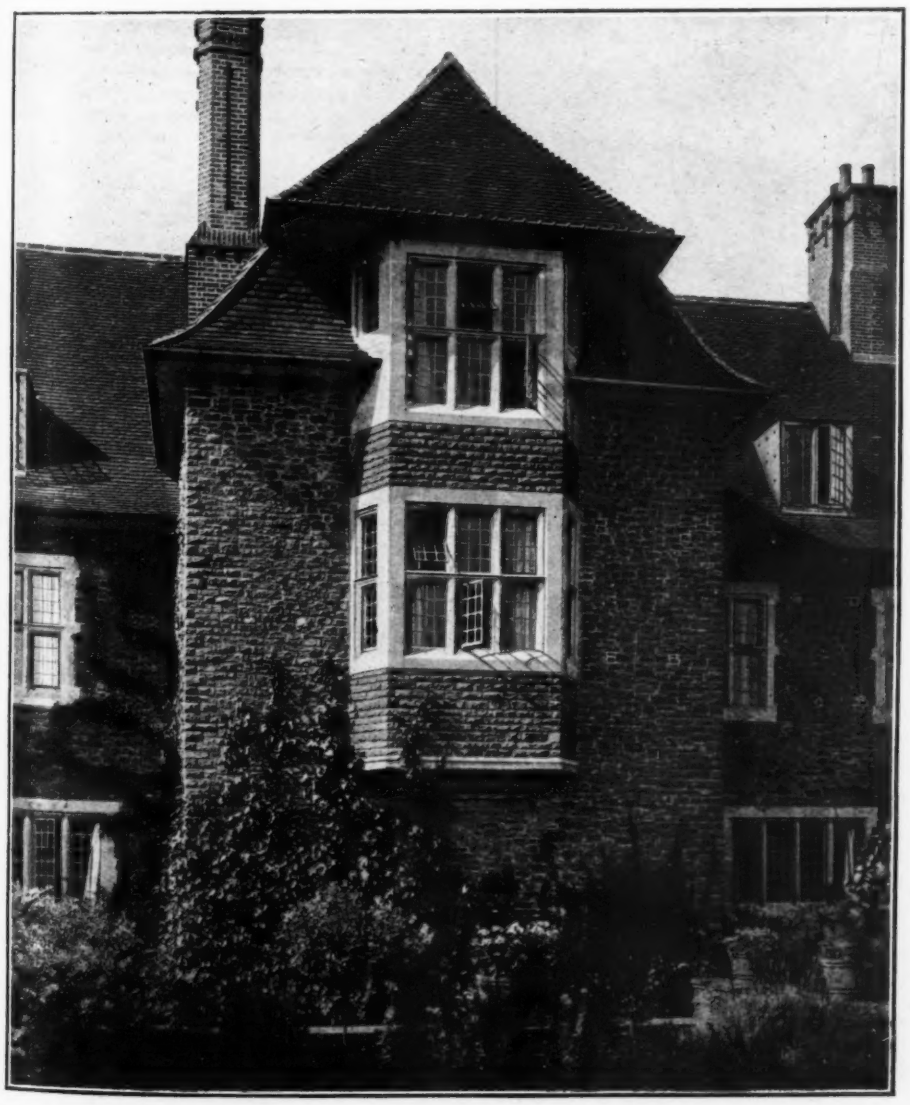
School Competition, Leicester.

The following accommodation must be provided: — Four classrooms to accommodate twenty each; twelve classrooms to accommodate twenty-five each; ten classrooms to accommodate thirty each; detached assembly hall to accommodate 650, with provision for organ (organ not to be included in estimate); artroom for elementary work to accommodate thirty students; artroom for advanced work to accommodate thirty students; chemical laboratory for elementary work to accommodate thirty students; chemical laboratory for advanced work to accommodate twenty students; preparation and balance room; physics laboratory for elementary work to accommodate thirty students; physics laboratory for advanced work to accommodate twenty students; preparation-room (to be used for photography); cloakrooms; changing-rooms with spray baths for games; headmaster's-room (with lavatory); Secretary's room adjoining with large cupboard and small safe; masters' common-room (with lavatory and cloakroom); waiting-room (to be used as clinic, if necessary); library and reading-room; dining-room to accommodate 250, with possibility of extension; kitchen, scullery, larder, and pantry; gymnasium; stores for books, stationery, caretaker, etc.; bicycle sheds; manual shop or shops to take two classes of thirty each; caretaker's apartments, furnace house and fuel stores; sanitary conveniences; miniature rifle range (quite detached).

All rooms used for teaching purposes, including gymnasium, and also including the assembly hall, dining-room, and cloakrooms, etc., must have through ventilation capable of providing 1,500 cubic ft. of air per hour per scholar while the children are in school.

Proposed Palace for the King (Kabaka Dandi Cla) of Uganda.

In a limited competition for this building the design of Messrs. R. Ronald Tate-Smith & Harold E. Henderson, Licentiate R.I.B.A., of Nairobi, British East Africa, and Kampala, Uganda, was selected, and the architects have received instructions to prepare working drawings and specifications, and to obtain estimates immediately. The building, which is to be erected near Kampala, Uganda, on an ideal site, is of two stories in height. The ground floor consists of a large entrance hall with staircase hall behind, state drawing and dining rooms, and private dining, breakfast, and sitting rooms and library. A reception hall with canopied throne is to be erected and a large council chamber of octagonal shape. The rear blocks contain accommodation for the princes and chiefs. On the first floor are the King and Queen's private apartments and two suites of rooms for visitors. It is proposed to erect the building of local brick with tile roof, and the elevations are designed in a rendering of Italian Renaissance adapted to a very hot climate.



"Great Roke," Witley, Surrey.

Messrs. Buckland, Haywood, & Farmer, Architects. (*See page* 62.)

CORRESPONDENCE.

L.C.C. Schools Competition.

SIR,—In view of the various opinions given in connection with the winning design by Mr. Arnold Mitchell for the London County Council new school at Linda-street, Battersea, and its bearings upon the new regulations issued by the Board of Education, it will be interesting to know if the Board of Education has passed the design as submitted, or has made any comments upon it or required any alterations made.

As the correct interpretation of the new regulations is of vital importance to those interested in the design of schools and the profession generally, it will be of great assistance if this information is given.

A COMPETITOR.

Reims Cathedral.

SIR,—In your issue of January 1, 1915, I notice Mr. Thomas Yates's letter *re* above subject matter, Mr. Yates quoting from the late Sir George Gilbert Scott's "Gleanings from Westminster Abbey." The question was the dates of erection of "Westminster Abbey and Reims Cathedral," and not the building of the Lady Chapel in Westminster Abbey in 1220, as the late Sir G. G. Scott says. As Mr. Yates remarks, "the present choir of the Abbey is subsequent to that of Reims Cathedral." This was restoration work and not copied from Reims Cathedral. I cannot agree with Mr. Yates that Westminster Abbey was demolished in the reign of Henry III.

HENRY H. B. SANG,
Architecte-Decorateur.

Deadwood as a Cause of Dry Rot.

SIR,—Every engineer will be interested in the statements made by Mr. E. J. Goodacre at the meeting of the Municipal and County Engineers at Birmingham, and reported in your issue of January 1, page 16.

In the discussion which followed there was considerable interest taken as to the cause of dry rot, and it is not at all surprising to me that this anxiety should pertain in the Midland district, because it is into that district that deadwood is imported.

It is six years now since the *Morning Post* tried to interest the public of this country against the importation of diseased timber, and for six years I have made a hobby of the study of this evil.

When dead timber is used in a building where ventilation is poor it develops fungoid growths, which ultimately rot it and transform it into touchwood. The great danger of deadwood lies in the fact that it is exceedingly difficult to detect, so that it is often used by builders in ignorance of its real nature. A builder said to me some time ago that a stack of timber he had just got in was the best he had ever had, because not only was it free from knots, but there was not a particle of sap on it. He said it was almost too good to use for joists. It was only my emphatic knowledge of this wood that could convince him that he was using deadwood. Indeed it is not to be wondered at that many builders are entirely ignorant of this inferior wood. Apart from the question of the reddish hue, there is nothing but the light weight of the wood to distinguish it from good timber.

Deadwood was first exported to England in small quantities in 1885, and ever since has found a rapidly growing market here. No attempt is made to delude buyers. The English importer buys it as torrak. The Swedes never use this wood themselves. It is practically unknown in France and Germany.

It cannot even be used for packing-cases for long voyages, because in the close hold of a ship the fungus is spread with startling rapidity. It is only in England that such timber has a large market. For these reasons I assert and maintain strongly that an Act of Parliament should be passed prohibiting the use of diseased or dead timber

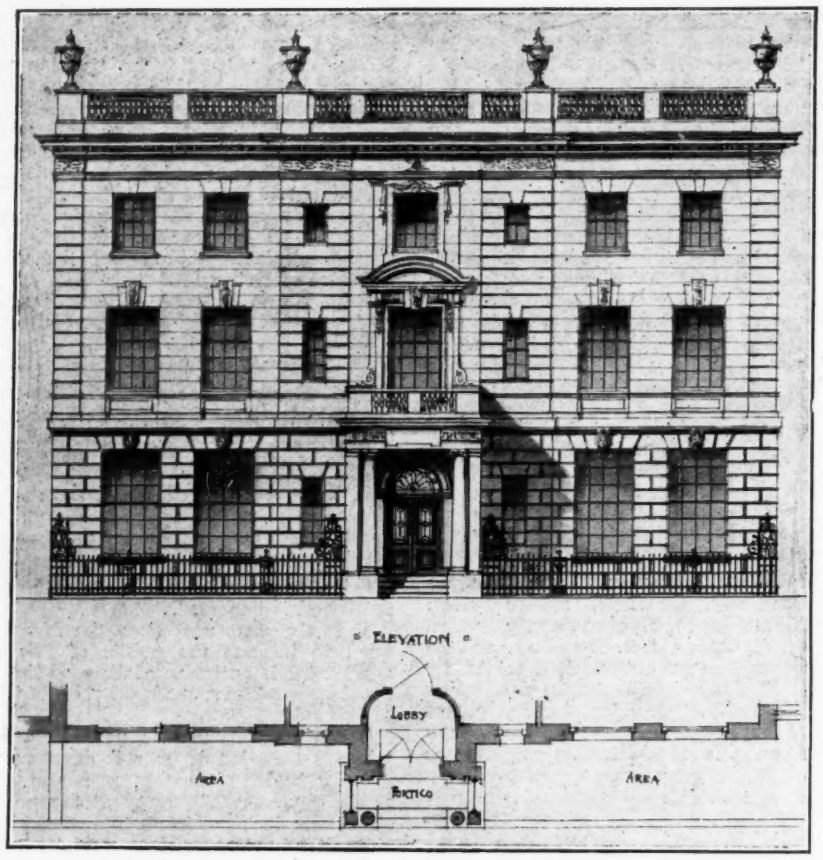
J. H. KERNER-GREENWOOD.

FIFTY YEARS AGO.

How We Manage Our Roadways.

FOR months Long Acre was passed through with difficulty by reason of the new sewers that were being tunnelled for and built. At last, however, the heaps of earth and elevated windlass here and there disappeared, and drivers thought it all right again. So it was for a few weeks; when down came fresh invaders with enormous iron pipes, and the ground was again broken up, the traffic interfered with, the trade of the shops injured. The pipes have been buried and the men have departed; but will the thoroughfare now remain open, the business of the district go pleasantly on? Not a bit of it! Look at the condition of the roadway—the surface is destroyed; a passage over it is dislocating. An army of paviors must be called into action again to block up the roadway, and by the time they have restored the paving an underground railway, a pneumatic despatch tube, or some new gas pipes will be ready for laying. And so we manage our roadways!

[*** We give the above extract from the *Builder* of January 14, 1865.]



Lowndes House, Lowndes-Place, S.W.: Original Sketch Elevation.

Messrs Mewès & Davis, Architects.

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ILLUSTRATIONS.

St. Pancras Town Hall.

WE reproduce some of the plans, elevations, and sections of the design placed first in this competition, together with plans of the existing buildings as supplied to the competitors with the conditions, the successful architect being Mr. Albert J. Thomas, M.S.A., Licentiate R.I.B.A.

The scheme set was of a strictly utilitarian character, and liberty was given to entirely rebuild, alter, or adapt the existing building to meet the present and future requirements of the Council with due regard to cost.

The present building was originally the old Vestry Hall, and had been added to piecemeal from time to time, and occupied jointly by the Council and Guardians, the latter body also having a right of access through the centre of the front portion of the building by means of a subway, which added to the problem of replanning.

In this design the subway has been transferred to an equally convenient position on the south side, the north block and upper part of centre rebuilt, and the remainder of the building replanned, keeping the existing façade to the main road, to which has been added a mansard roof, giving greater dignity to the somewhat squat but symmetrical existing elevation. The new planning has been designed with a minimum of corridor and ready access to every department, these being interchangeable without affecting any part of the main structure.

The first floor is entirely occupied by the Council chamber, committee-room, mayor's parlour, and members' rooms, and so placed as to ensure quietness and privacy, but at the same time are conveniently accessible to all departments.

The new north elevation is simple, prominence being given to a bay from ground to first floor, emphasising the mayor's room and principal floor; it is proposed to face this front with Dutch brick and stone dressings, and the roofs will be covered with thick red tiles. The Council chamber will be panelled in oak specially treated, and the seating and furniture designed to harmonise. The mayor's room and committee-rooms are proposed to be panelled in plaster with coved and intersected ceilings.

"Great Roke," Witley, Surrey.

THIS house is built upon a hillside to the north of Witley, in typical Surrey country.

The walls are of Bargate stone, obtained within a stone's throw of the site, and dressings of Doulting stone. To guard against the weather the walls are built hollow, with an internal lining of brickwork 9 in. thick. The tiles for the roofs are from the yards of the Inglewood Brick and Tile Company. The steel casements and lead lights were supplied by Messrs. Henry Hope & Son, and the ornamental plaster-work, of which there is a good deal in the ceilings of the principal rooms, was modelled by Mr. R. M. Catterson-Smith.

Lowndes House, Lowndes-Place, S.W.

THIS house was designed by Messrs. Mewès & Davis, of 39, Maddox-street, W., for Messrs. Geo. Trollope & Sons, by whom the whole of the work was executed.

No. 27, Grosvenor-Square, W.

THESE extensive additions, alterations, and decorations were from designs by Messrs. Mewès & Davis.

The general contractor was Mr. James Carmichael. The decorative work in the entrance-hall, ground, and first-floor galleries, and the lounge on the first floor was executed by Messrs. Ch. Mellier & Co.; that in the dining-room by M. Boulanger, of Paris; and that in a Louis XVI. bedroom by Messrs. P. Turpin & Co.

Messrs. Farmer & Brindley carried out the marble paving in the terrace garden, the marble floor in the dining-room, and that from floor to ceiling in the best bathroom.

The radiator heating, domestic hot-water supply, and the kitchen apparatus were by Messrs. Richard Crittall & Co., Ltd. The Otis Elevator Company, Ltd., installed the new electric passenger and service lifts. The house was rewired for electric light and vacuum cleaners by Messrs. Higgins & Griffiths, who also supplied some of the electric light fittings.

MEETINGS.

FRIDAY, JANUARY 15.

Town Planning Institute.—General meeting at 92, Victoria-street, S.W. Discussion on "The Ruislip-Northwood Scheme." 8 p.m.

MONDAY, JANUARY 18.

Royal Institute of British Architects.—Mr. F. C. Eden on "Ecclesiastical Buildings in Northern Italy." 8 p.m.

Incorporated Institute of British Decorators.—Mr. R. H. Vigor, F.I.B.D., on "Scaffolding." 8 p.m.

University Extension Lecture (at the Victoria and Albert Museum).—Mr. Banister Fletcher on "The Evolution of English Gothic Cathedrals." 4.30 p.m.

WEDNESDAY, JANUARY 20.

Worshipful Company of Carpenters.—Mr. C. Delisle Burns on "Building in Mediæval Times by the Guilds." 7.45 p.m.

Royal Society of Arts.—Mr. J. A. Hunter on "The Textile Industries of Great Britain and Germany." 8 p.m.

THURSDAY, JANUARY 21.

Edinburgh Architectural Association (at the College of Art).—Mr. John Watson, F.R.I.B.A., on "The Building of a Great Mediæval Church." 8 p.m.

University Extension Lecture (at the British Museum).—Mr. Banister Fletcher on "Temples and Basilicas of Rome." 4.30 p.m.

Society of Antiquaries.—Ordinary meeting. 8.30 p.m.

University Extension Lecture (at the Victoria and Albert Museum).—Mr. Kaines Smith on "National Arts: Flanders." 3.30 p.m.

A NEW CALENDAR.

We have received from Messrs. Hibberd Brothers, Ltd., joinery manufacturers, 146, Vauxhall-walk, Lambeth, S.E., a neat and artistic calendar for 1915. It is an admirable reproduction, by colour photography, of an original water-colour by Edward Lamasure, entitled "Early November, Old Virginia," with a loose-leaf calendar underneath.

Lowndes House, Lowndes-Place, S.W.: Second Floor Plan.

Messrs. Mewès & Davis, Architects.

CONSTRUCTION SECTION.

Fig. 4. Johannesburg Town Hall: View of Completed Building.
Messrs. Hawke & Mackinlay, Architects.

JOHANNESBURG TOWN HALL AND MUNICIPAL OFFICES.

THIS important building, which has been erected from the designs of Messrs. Hawke & Mackinlay, architects, Johannesburg, contains some interesting constructional features which are worthy of notice. The building is situated in a central position directly opposite the General Post Office, and it has a frontage of 200 ft., with return frontage of 400 ft. to Market-street and President-street, whilst at the back of the building an extensive garden scheme is being carried out at a cost of about £6,000. The total cost of erection was approximately £300,000, and the work could only have been carried out for this sum with reinforced concrete for the constructional material, as it was found that a considerable saving was effected by the use of this material as compared with the use of ordinary steel girders, joists, and stanchions.

The height of the building varies at different points, but, generally speaking, there are three main floors, viz., ground, first, and second. Several mezzanines are introduced, and a basement is provided over about half the area of the building, this being utilised for heating chambers, strong-rooms, and offices for the Tramways Department. A tower finished with a dome forms a central feature with the main façade, as will be seen in the view of the finished building, and this has a height to the top of about 130 ft. measured from the basement level. A general plan indicating the main lines of the building is illustrated in Fig. 1, and it will be seen that large internal areas are provided for lighting purposes, while the large open floor space on the right-hand side of the plan is the Town Hall, which measures about 150 ft. by 90 ft., with a height of 60 ft. from floor to ceiling. A gallery is situated at one end, and a platform with accommodation for an orchestra at the other, and seating is provided for 3,000 people. This hall, which is on the ground floor, extends through the first and second floors, and it is provided with separate entrances and exits, and is remote from the principal front above mentioned. The main entrance, which occurs under the tower, gives access to the municipal offices, and a large rates hall the latter being 84 ft. by 62 ft., and the remainder of the ground floor is devoted to reception-rooms, cloak-rooms, lavatories, staircases, etc. The principal room on the first floor is the Selborne Hall, which is about 95 ft. by 46 ft., and on this floor is situated the Council Chamber, 67 ft. by 30 ft., committee-rooms, mayor's parlour, and various offices. The second floor is constructed only over a part of the building, and this is utilised for various offices and stores. Apart from the supporting properties of the walls, the constructional members are formed of reinforced concrete, designed on the Kahn system by the Trussed Concrete Steel Company, Caxton House, Westminster, and it is estimated that there is no less than 130,000 sq. ft. of reinforced concrete flooring alone, which required approximately 200 tons of reinforcing steel. These floors were all calculated to carry a superimposed load of 1 cwt. per square foot, and the calculations were based on the recommendations of the Royal Institute of British Architects, together with the regulations of the local by-laws. The reinforced work was naturally governed to a great extent by the architects' requirements, both as regards disposition and size, but, generally speaking, no exceptional difficulties were encountered, although pure economy could not be achieved in every instance.

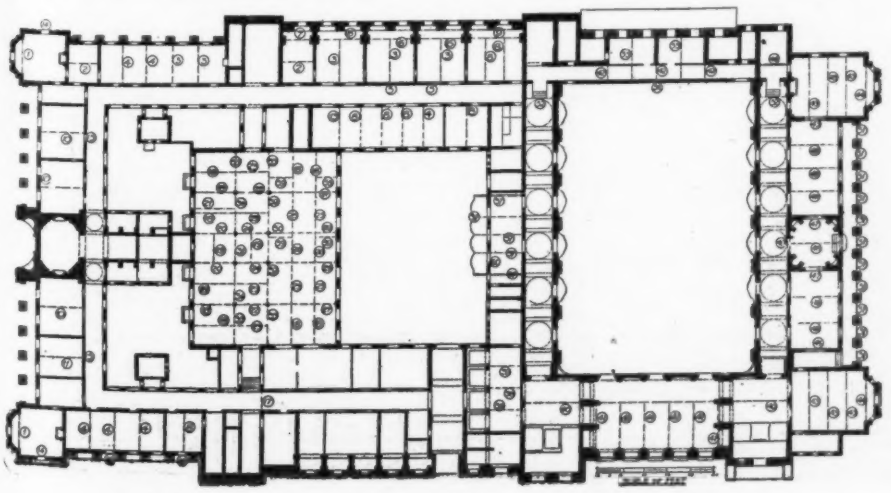


Fig. 1. Johannesburg Town Hall: Ground Floor Plan.

Owing to the walls being used wherever possible for supporting the constructional beams and to the necessity for obviating any isolated supporting members in the large rooms, very few columns were employed. There are some in the rates hall, which are 20 in. square, reinforced with four vertical lines of reinforcement tied with links at 6-in. centres, and these have a foundation base 6 ft. square with a minimum thickness of 15 in. of concrete at the outer edges increased to 2 ft. 3 in. by splaying up the concrete towards the intersection with the column shaft. Reinforcement is provided on the lower surface, and this consists of ¾-inch Kahn bars in both directions. The foundation at this point consists of solid rock, and the bearing capacity of the soil is therefore very great. The floor slabs on the ground floor are generally 5 in. thick, reinforced with ½-in. rib bars, with Kahn bars to provide continuity over the beams, and in a few cases 4½ in. and 6 in. thickness was employed. The beams are generally arranged as secondary and main beams, which vary considerably in size according to the spans and the loading, but there are no exceptional sizes. The largest are those which occur under the large rates

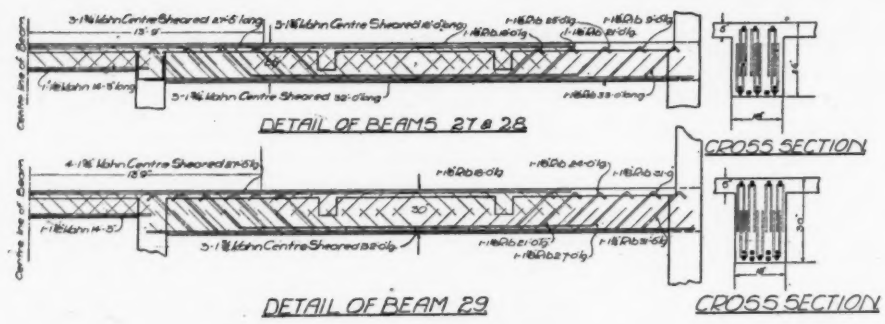


Fig. 2. Details of Beams.

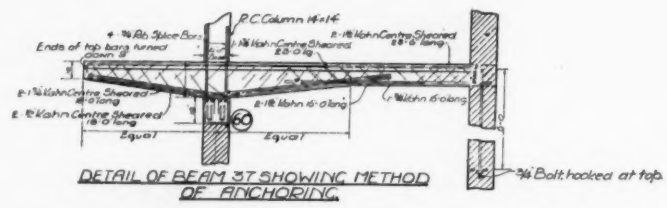


Fig. 3. Johannesburg Town Hall: Detail of Cantilever.

hall, where the main beams support the ends of two secondary beams on either side, and the clear span is about 28 ft. These beams are 26 in. by 18 in. and they are reinforced with six Kahn bars and twelve rib bars at the centre of the span, some of these being provided for a part of the length only and being then discontinued. The other beams on this floor vary from 12 in. by 10 in. up to this largest section. The variation in the loading and the span can be gathered when it is mentioned that there are fifty different sizes and types employed on this one floor alone. Some details of the construction at the first floor level are illustrated in Fig. 2, where the detail of beam No. 29 is that of a large beam which occurs over the rates hall. This has a span of about 28 ft. and carries a total load of 52 tons of which 26 tons are uniformly distributed, and the remainder consists of two concentrated loads of 13 tons each brought on to this main beam by the ends of the adjoining secondary beams. It has a total depth of 30 in. and a width of 18 in., and the reinforcement concrete of thirteen bars altogether, of which nine are placed in the lower surface and four on the upper. A comparison was worked out by the engineer to show the cost of the beam as compared with a steel beam required to carry the same loading, and he found that a 22-in. by 12-in. compound girder, weighing 173 lb. per foot run, would be necessary, and, after allowing for the necessary concrete casing to protect this against fire and the cost of the centering for the reinforced beam, it was found that a saving of about 11s. per foot run, or approximately 33 per cent. of the total cost of the steel girder, was effected by the use of reinforced concrete.

Another detail of work at the first floor is illustrated in Fig. 3, and this shows the type of cantilever used for supporting a conservatory which is constructed adjacent to and leading out of the refreshment-room, and which is entirely projected outside the main external wall. This conservatory is over 30 ft. long, and it is carried on five reinforced concrete cantilevers, each having a projection of about 7 ft. 9 in. from the centre of the fulcrum column, and the tailing down portion is about twice as long. The load on the inner end of the beam was, however, insufficient to provide proper tailing-down and additional anchorage was therefore provided in the form of ¾-in. bolts carried 6 ft. down the wall and secured to a plate, thus increasing the amount of brickwork that would have to be lifted by the overturning tendency. Each cantilever has a maximum depth of 2 ft. at the fulcrum reduced to 12 in. deep at the outer ends and at a distance of 7 ft. 9 in. from the centre of the column on the tailing-down portion, and the width is 15 in. The reinforcement consists of seven Kahn bars, three of which are placed on the upper surface and four on the lower, and the floor of the conservatory, the thickness of which is included in the total depth given, is 4½ in., and this is reinforced with ⅜-in. bars. The fulcrum column under each cantilever is 12 in. square and reinforced with four lines of vertical reinforcement, these columns being 6 ft. high, and the lower ends finished with a base to distribute the pressure over the supporting brick wall.

Several of the floor slabs have a considerable span, the largest being approximately 21 ft., this having a thickness of 9 in., with reinforcement consisting of ¾-in. Kahn bars spaced at 15 in. centres in both directions. Some large beams occur at the second floor level, the largest of these carrying a total load of about 60 tons, partly distributed and partly concentrated over a span of about 30 ft. This beam supports a brick wall 14 in. thick, and the beam has a width equal to this and a depth of 3 ft. 9 in. It is reinforced with sixteen rods, at the centre of the length, half of which are arranged in each surface. There are other beams having a depth of 3 ft. 9 in. at this floor level, but they are not so wide or so heavily reinforced as that described above. A minstrels' gallery is constructed at one end of the Selborne Hall, and this is carried on reinforced concrete cantilevers. The beam immediately above the gallery opening has a span of 28 ft., and this is 26 in. deep and 18 in. wide with nine bars in the lower surface and eight in the upper. The type of roofing employed varied at different parts of the building, in some cases reinforced concrete flats were adopted; in others steel trusses. The main part of the Town Hall itself was covered with steel trusses, but reinforced concrete was used at the ends over the gallery and platform, and the proscenium opening 45 ft. wide is spanned by a reinforced concrete beam 5 ft. 6 in. deep and 2 ft. 3 in. wide, with reinforcement consisting of three 1¾-in. Kahn bars and two 1-in. and six ¾-in. rib bars, all the latter being bent up towards the ends. The dome to the tower has a 20-ft. span, and this is constructed with 6 in. of concrete reinforced with ⅜-in. bars arranged in radial and circumferential lines.

The main staircase is constructed of concrete having a minimum thickness on the soffit of 4 in. and with one Kahn bar across the width under each tread, and with rib bars parallel to

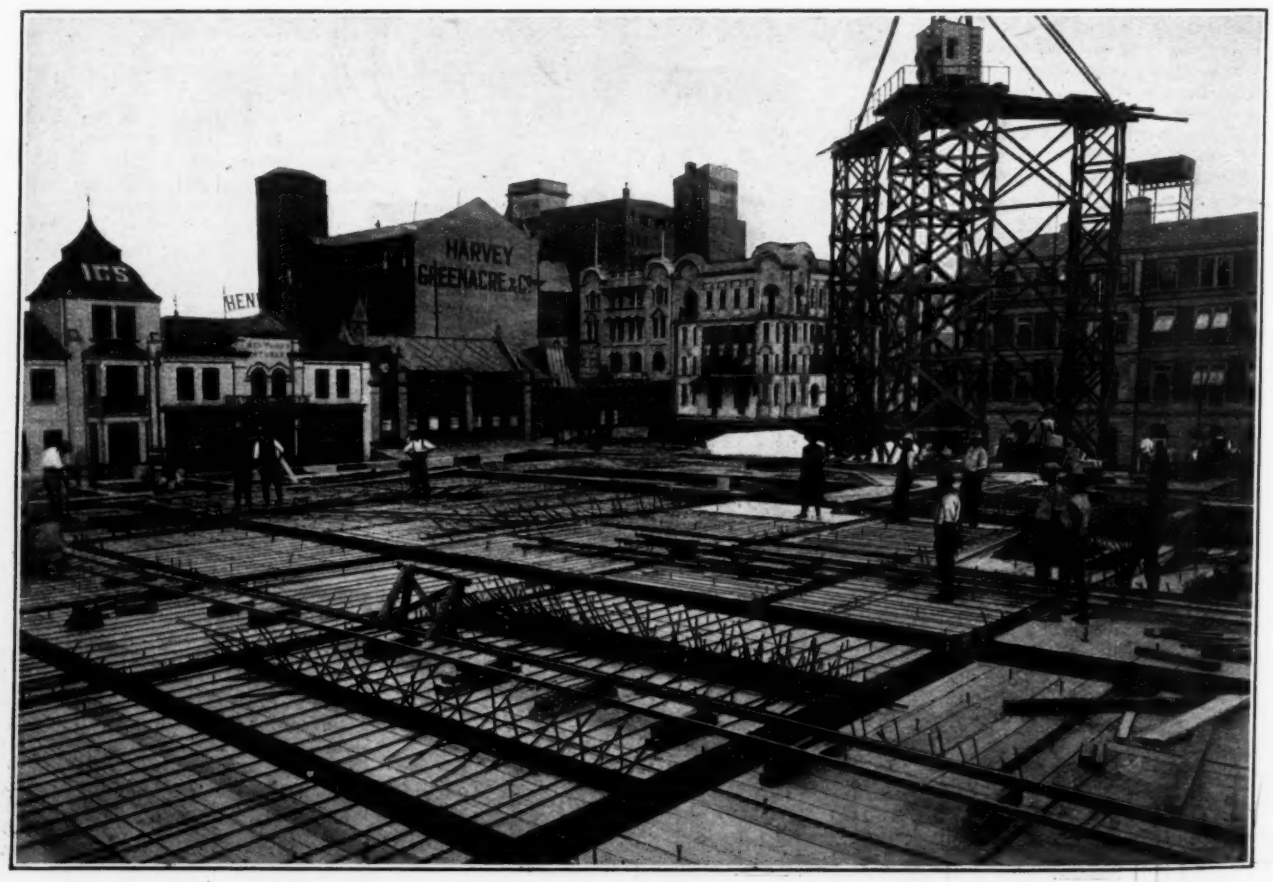


Fig. 5. Johannesburg Town Hall: Reinforced Concrete Floors during Construction.

the pitch, the latter passing over the Kahn bars and close to the intersection of tread and riser.

The floors of the Town Hall and the Selborne Hall are covered with American maple, and the floors are set on Valtor springs, rendering them suitable for dancing, if so required.

The whole building is faced with grey stone, and the roofs, which are very low pitched, are covered with green tiles. It is an interesting building containing some fine apartments conveniently planned, while the construction is scientific and economical, and the whole structure is very successful and well suited to the purposes for which it was erected. The building was erected by Mr. M. C. A. Meischke, and the work was commenced in February, 1912, and completed before the end of 1914.

THE INSTITUTION OF WATER ENGINEERS:

SCRAPING A 15-IN. TRUNK MAIN AT BATLEY.*

THE Batley Corporation were originally partners in a joint undertaking, belonging to Batley, Dewsbury, and Heckmondwike, but, owing to increased demands for trade and other purposes, dissolved partnership and obtained Parliamentary powers to construct their present works in 1871. These works consist of three impounding reservoirs situate on the eastern slope of the Pennine chain near Holmfirth, about 17 miles of 15-in. trunk main, and a covered service reservoir at Staincliffe, within the borough of Batley. One small village named Brockholes is supplied by a branch main, direct from the trunk main.

In 1895 it was found necessary to construct a new gauge well at the head of the main, in consequence of the reduced quantity of water obtainable from the lower well. The theoretical discharge from this new well was 1,680,000 gallons per day; but when tested in 1893 by the Waterworks Committee with a pressure equal to the level of this new well the discharge was 1,400,000 gallons. In 1895 the discharge from the same level was 1,387,000 gallons per day. In 1902 the discharge had fallen to 1,347,000 gallons per day. In 1907 the delivery was only 1,262,000 gallons per day. This reduced quantity again caused additional head to be used, and water was delivered from a relief well situate above the level of the lower reservoir.

The author had reported on the condition of the main in 1902, with estimates of cost, both of scraping and of laying a new main, the former being £1,500, and the latter £40,000. Increased consumption and decreased discharge of main again brought the matter forcibly before the Council in 1907, when further reports were made, and, having only this one main to supply the town with water for all purposes, it was decided, as a preliminary measure, to obtain an additional supply from one of the neighbouring authorities. An agreement was therefore entered into for a minimum supply of 1,000,000 gallons per week, and a maximum of 2,500,0000 gallons per week. This arrangement improved the conditions of supply considerably, and the question of scraping was delayed until 1911. The discharging power of the main at this time was reduced to 1,092,936 gallons per day, and it was decided to proceed with the question of scraping forthwith.

The main was carefully surveyed, and a section plotted which showed several steep gradients. The author was anxious to find a scraper that could be easily manipulated in either direction with little head of water, preferring to work down the gradients rather than incur the risk of forcing the scraper over the hills with the consequent difficulty of flushing out the *débris*. This was ultimately found in the "Eric" Patent Scraper.

This machine is distinguished from other forms by reason of the "pressure-heads" being placed in front of the "ploughs," instead of behind, thus pulling the ploughs along, the detached incrustation, etc., following with the main body of water, instead of the "ploughs" and incrustation being pushed along by the "pressure-discs"; thus reducing materially, if not entirely, the danger of the scraper being

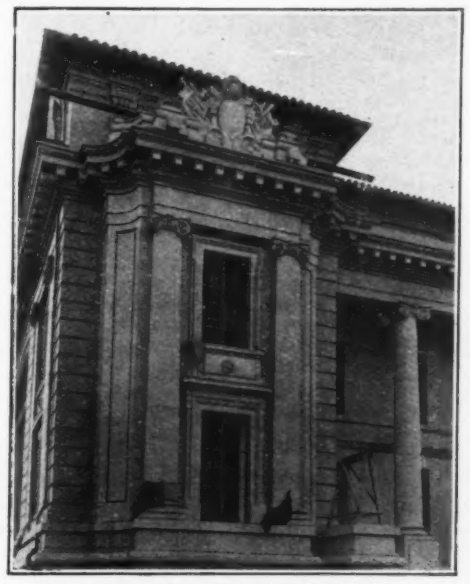


Fig. 6. Johannesburg Town Hall: Stonework to End Feature of Façade.

(*See page* 63.)

jammed by *débris*. The pressure-heads are built up with spring-steel blades in the form of cups, and are lined with leather buckets which expand and contract according to the nature of the main, thus utilising nearly the whole of the available pressure.

In the early part of 1912 a trial length of 2,600 yds. was set out, and hatch-boxes fixed on one of the worst gradients.

The scraper was inserted at the top of this trial length, near the service reservoir, and the main charged through the bottom valve, the reservoir being shut in; the hatch-box lid at the bottom of the slope was then removed and the bottom valve opened. The scraper immediately responded, for scarcely had the valve been opened two turns before the telephone bell at the lower hatch-box informed us that the scraper had started. The first run occupied two hours thirty minutes, and the second run one hour forty-five minutes.

This trial proved so satisfactory that the Waterworks Committee (who were present) gave instructions to proceed with the arrangements for scraping the whole 17 miles of main.

Not a single case of a fractured main or blown joint occurred in the whole 17 miles. Air valves were not closed down, and were observed to close gradually and without shock as the scraper passed them, due no doubt to the low head of water used for propelling the scraper. The speed of the scraper was controlled to a walking pace, and was distinctly audible in most places without stethoscopes. To facilitate the control of valves, etc., a portable field telephone apparatus between hatch-boxes and valves proved of great service.

The amount of incrustation was ascertained by weighing various sections cut out when fixing hatch-boxes, and averaged 28 lb. per yard, or 22 tons per mile. No difficulty was found in disposing of this material, which passed away as sludge with the wash water. No complaint was received, except from the small village of Brockholes, which was unavoidably without water at times during the scraping of the earlier sections; the town supply was fully maintained without dirty water or inconvenience of any kind.

The delivery of the main, which before scraping was 1,092,936 gallons per day, was increased to 1,527,462 gallons per day. This will be further increased when certain flat pipes and other obstructions have been removed.

It is impossible to lay down hard-and-fast rules for pipe scraping, but the following observations may prove useful:—

1. The main should be carefully surveyed and all possible information obtained as to the position of valves, special castings, etc.
2. Where the main passes through private land it should be pegged out; in roads and streets a note as to its position is sufficient.
3. Hatch-boxes should be fixed as near to controlling valves as possible, and provision made in the lids for fixing pressure gauges, etc.
4. The author (after the trouble experienced with compound gear valves) would prefer ordinary valves with by-pass valves attached.
5. Ample outlet for sludge and wash water should be provided, and the main should be flushed out after each run.
6. By scraping *down* gradients instead of *up* them danger of damage to main is much reduced.
7. The degree of success attained will materially depend upon the care devoted to the preparations made in advance, and a full appreciation of difficulties likely to be met with, and perhaps the most important factor is a willing, cheerful, and intelligent staff of workmen, ready to face difficulties and delays, together with an abundant supply of tools and tackle.

* Part of a paper by Mr. J. C. Barrowclough, Waterworks Engineer, read at a recent meeting of the Institution of Water Engineers.

THE APPLICATION OF CONCRETE IN MODERN SANITATION.

THE following is an abstract of a paper entitled "The Application of Concrete in Modern Sanitation," read by Mr. Henry J. Tingle, M.Inst.C.E., at the fifty-fourth ordinary general meeting of the Concrete Institute, Professor Henry Adams, President, in the chair:—

Concrete has played its part in sanitation for many years, with more or less success,

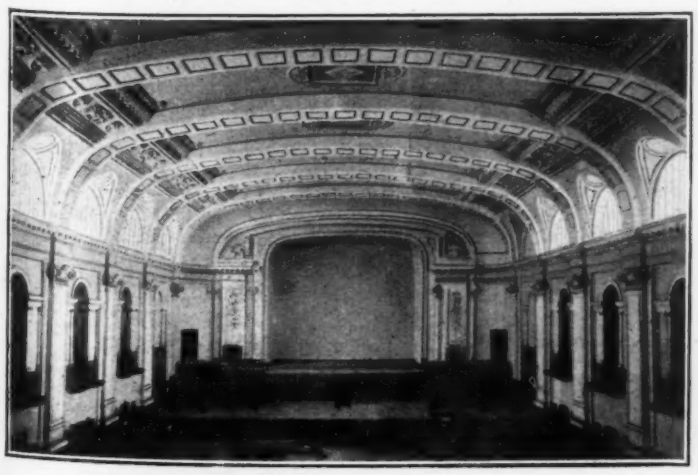


Fig. 7. Johannesburg Town Hall: Interior.

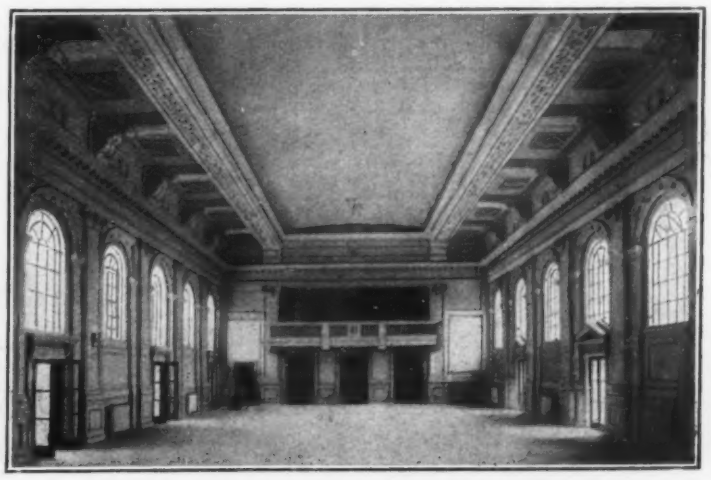


Fig. 8. Johannesburg Town Hall: The Selborne Hall.

(*See page* 63.)

according to the skill of the designer and the quality of the materials and workmanship. The tendency in recent years has been to employ concrete more and more, and this tendency in the future is sure to extend its use in directions where now it is scarcely applied. Sanitation works have been particularly affected by the attitude of the Local Government Board towards reinforced concrete, as such works are generally undertaken by local authorities, who have to obtain the sanction of the Board to the raising of a loan for the amount of capital expenditure, or else to obtain Parliamentary powers by means of a private Act. The great majority of authorities, however, adopt the first of these two courses of procedure, and the practice of the Board is, in the case of reinforced concrete for works in contact with water or sewage, to require the capital sum to be paid off in a period of ten years, whilst in the case of ordinary concrete, under the same conditions, the period of repayment is thirty years. In cases where, in addition to reinforced concrete in contact with water there is reinforced concrete not in contact with water, the periods for the loans on each class are sometimes equated together and the loan for the whole granted for the period given by the equation.

Doubtless in the early years of reinforced concrete the Board were well advised to act cautiously in the matter of sanctioning loans for the use of a combination of materials of which in this country there had been scarcely any experience, either as to its suitability or as to its life in sanitation works. The effect of this differentiation on the part of the Board in the treatment of concrete and of reinforced concrete has been to curtail the employment of the latter in public works of sanitation. It is clear that under the present conditions, where the loan is obtained for reinforced concrete, the burden thrown on the ratepayers annually to repay the principal and interest in equal annual instalments spread over ten years would be more than twice as great as for a loan of equal amount and rate of interest obtained for ordinary concrete, to be repaid in equal annual instalments in thirty years. The following example will illustrate the matter:—If £1,000 be borrowed at 3¾ per cent. interest, to be repaid in equal half-yearly instalments of principal and interest for terms of ten years, the sum to be paid each half-year will amount to £60 8s. 6d.; thirty years, £27 18s. 1d.

The difference between those two amounts is approximately £32 10s., which is 116 per cent. of £28.

Under those circumstances it is only natural that most authorities elect to use ordinary concrete in order to ease the burden on the present ratepayers and throw part of it upon the ratepayers of the future.

The effect of the differentiation amounts to this, that unless the cost of the works can be considerably reduced by the employment of reinforced concrete as compared to ordinary concrete, there is but little probability of local authorities deciding in favour of the former. The requisite saving may be effected in some instances, but so far as the experience of the author goes this is not generally the case.

With the experience that has now been obtained relating to the behaviour of reinforced concrete that is constantly in contact either with water or with sewage, it is permissible to hope that the time is not far distant when the Local Government Board will reconsider its attitude towards this material, and in cases where it is proposed to make use of it will sanction loans on more favourable terms as to the period of repayment than those now in force.

Concrete has been and is now extensively used in the construction of reservoirs, sewage tanks, filters, aqueducts, and water towers. Full descriptions of these works are to be found in technical journals and volumes of proceedings of the various engineering societies. The same holds good for similar structures in reinforced concrete, though to a more limited extent, but numerous examples are given in the catalogues issued by the various firms specialising in this class of work.

Mass concrete has been largely used in the construction of sewers of 4 ft. diameter and upwards. It is moulded in the trench and supported by centering until set. Elliptical sewers are also constructed in this manner. In recent years reinforced concrete has been employed for sewers of both types, the mixture being sufficiently stiff to admit of ramming.

Concrete tubes have been extensively employed in main sewering work for many years past, being supplied ready for use by firms who have taken up their manufacture.

Concrete tubes, unless strongly reinforced, should be laid on a concrete bed not less than 6 in. in thickness, and the concrete be brought up round the tube as far as the springing. By the omission of this precaution many failures have occurred. In tubes liable to internal pressure the concrete should entirely surround them. The tubes have ogee, rebated joints which are luted with cement and the inside pointed up.

Reinforced-concrete pipes have been used for water mains at Swansea against heads of 246 ft. and 500 ft.; at Norwich for sewage rising main head, 131 ft.; and at Clydebank for water head, 390 ft.; and are about to be laid at Leeds for water. They have been largely used on the Continent, and 119 miles of 10-in. to 49-in. water mains were in course of construction in Flanders at the outbreak of the war. They have also been largely used in Paris. Twenty years since the municipality laid down 1 mile of 6 ft. diameter as a rising main for sewage head, 115 ft., in a gallery alongside a steel-riveted main of same diameter. It has been found that the steel main requires considerable maintenance, and the concrete tube none. Concrete tubes are constructed to form manholes, water tanks, and cesspits. Sewers, reservoirs, manholes, etc., are constructed with moulded blocks of concrete which are supplied by various manufacturers. As illustrating in greater detail the application of concrete to sanitation works, the author then described and illustrated the following examples:—

Failure and reconstruction of concrete-covered reservoir; temperature cracks in concrete reservoir wall; ejector chamber in concrete with steel-plate lining; the use of concrete for sewage outfalls; circular hydrolytic tanks in reinforced concrete.

At the end of the paper an illustrated appendix was given descriptive of the methods and manufacture of concrete tubes furnished by various firms specialising in such work.

The reading of the paper was succeeded by a discussion in which the following took part:—The President, Mr. T. J. Moss-Flower; Professor Stephen M. Dixon, M.Sc., M.A.; and Messrs. T. C. Dawson, D. B. Butler, J. G. Sharp, S. Bylander, W. A. Green, M.A., B.Sc.(Eng.), Allan Graham, and Robert N. Sinclair.

The next meeting of the Institute will take place on Thursday, January 21, when Mr. Ewart S. Andrews, B.Sc., M.C.I., will read a paper entitled, "Some Modern Methods of Arch Calculation."

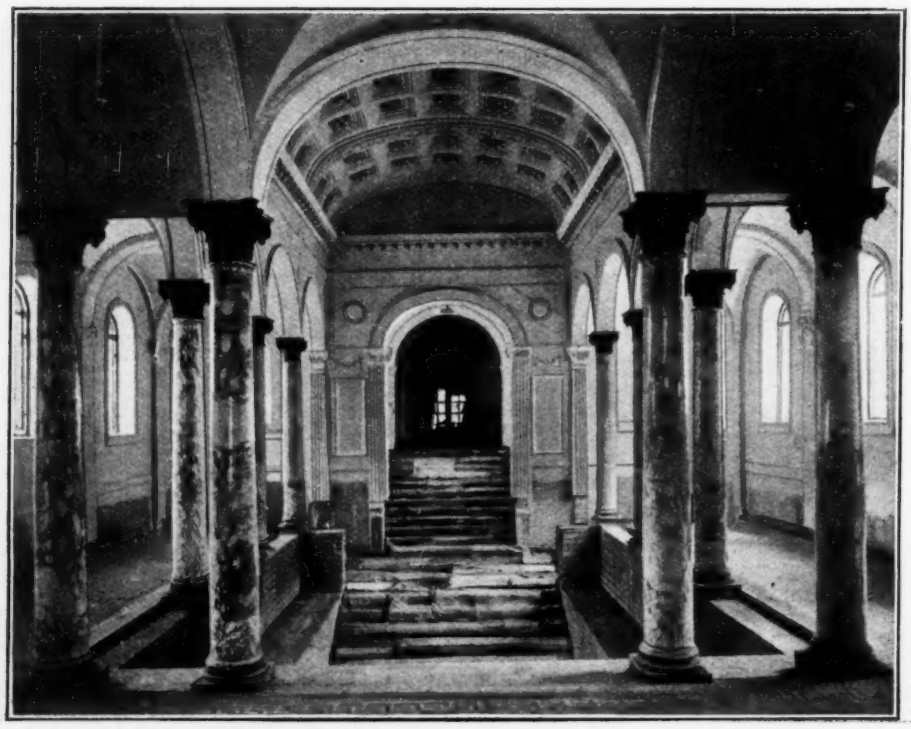


Fig. 9. Johannesburg Town Hall: Interior View. (*See page* 63.)

CONSTRUCTION NOTES.

Economic Modern Trenching and Ditching. OUR attention has been directed to a new type of mechanical excavator which has done good work in both city and country. In the streets of Kincaid, Illinois, U.S.A., at a speed and efficiency contest in trenching for pipe laying, this machine dug 6,316 ft. of ditch in six working days at a cost of a little more than ¾d. per lineal foot; the capacity was of 12 ft. depth and 36 in. width. On a gas-pipe line near Calgary, Alberta, Canada, two of these machines dug 86 miles of trench in sixty-three days. The same model has been employed for open ditches and, by changing the digging, for sewers and water mains on the various camps and training grounds in Canada of the Canadian Expeditionary Force. Incorporated in the machine are a number of special devices which meet the peculiar and varying demands of trench excavating in all kinds of soil. Of particular merit are the self-cleaning buckets and the multi-pedal and self-propelling traction. Moreover, the machine will not only travel backward as easily as forward, but it can be switched completely around in its own length. One man, with a boy assistant, will suffice for operating. The nature of the trenching may be varied in width from 12 in. to 72 in., and from any depth down to 20 ft. A bank sloping attachment may be fitted for open ditchwork. The machines are manufactured in many sizes by the F. C. Austin Drainage Excavator Company, of Chicago, U.S.A.

Corrosion of Steel in Concrete. SPEAKING on this subject some time ago, Doctor W. H. Walker, Director of the Research Laboratory of Applied Chemistry, of the Massachusetts Institute of Technology, said that every engineer is well aware of the fact that acidulated water, no matter how small the percentage of acid may be, tends to corrode steel by increasing the number of hydrogen ions present. It had been made clear, from tests he carried out, that there were certain alkaline substances present in concrete which corrected any acidity, and so protected the contained metalwork from corrosion. This fact has an important bearing upon the question whether concrete will protect iron or steel from corrosion. Inasmuch as Portland cement, when it sets or hardens, liberates a quantity of caustic lime, which is a strong alkali, the answer to the question must be in the affirmative. Iron or steel will not corrode when embedded in good concrete. But caustic lime is soluble in water, and poorly-made concrete is not impervious to moisture. Therefore, if iron be embedded in concrete through which water is allowed at any time to percolate, this calcium hydrate will be slowly but surely dissolved. With it will disappear the inhibiting action of the concrete; and iron embedded therein will in time rust and become corroded.

THE BUILDING TRADE.

BUILDING IN BIRMINGHAM.

TO the casual visitor acquainting himself only with the centre of the town—that part around the two great railway-stations of New-street and Snow-hill—it might seem that there had been no great recent activity in the building trade in Birmingham. This part of the town, however, is hardly ripe for great alterations, having been almost entirely rebuilt at the time that the great clearance was made under the mayoralty of Joseph Chamberlain. Numerous mean streets were swept away, and straight through this area was driven Corporation-street, by much the same drastic measures that caused the appearance of Kingsway upon the map of London. This is a wide and nobly-planned thoroughfare, but its architecture quite failed to rise to the occasion, and there is no recent improvement or new work to be chronicled here.

The traveller arriving at New-street Station and emerging in Stephenson-street will find himself at once amidst a scene of great activity. Extensive alterations and additions are here being made to the L. & N.W. Railway Queen's Hotel, from designs by Messrs. Joseph & Smithem, of London. The works are being carried out by Messrs. John Bowen & Son, with concrete floors by the Kleine Company, and steelwork by E. C. & J. Keay, of Darlaston. An interesting feature is a deep reinforced-concrete retaining wall to hold up the roadway, the level of the station and bottom floor of the hotel being much below the street. This has been carried out by the Considère Construction Company. Just opposite, at the corner of Lower Temple-street, is a block of offices in course of erection by Messrs. John Barnsley & Sons from plans by Messrs. Essex & Goodman.

Proceeding up this street we come very soon into New-street. Here is to be recorded the regrettable disappearance of a well-known and well-loved landmark, the Royal Society of Artists' building, with its Corinthian portico, which for so long stood at the top of the hill. Together with the adjacent buildings it was pulled down to make way for a large new block by Messrs. Crouch, Butler, & Savage, also built by Messrs. J. Barnsley & Sons. It is faced with Carrara ware, a striking contrast to the prevailing stucco of this side of the street. The steelwork was supplied by Messrs. E. C. & J. Keay. Messrs. Barnsley were again the contractors for a large block lower down the street, designed by Messrs. Nicol & Nicol, which includes the well-known picture-house, faced with Carrara ware. The rest of the buildings are faced with a patent white cement, with coloured insets, by Stuart's Granolithic Company, who also constructed the ferro-concrete floors and walls.

At the lower end of New-street, at the corner of Worcester-street, is the handsome new Lloyd's Bank, designed by Mr. J. A. Chatwin, and built by Messrs. R. Lowe & Son, of Burton-on-Trent. At the bottom of Worcester-street, in Ladywell-walk, has just been completed a large garage for Messrs. Wells & Maynor, from the plans of Messrs. J. Lister Lea & Sons, the builders being Messrs. W. Wilkinson, Ltd. The steelwork was supplied by Messrs. E. C. & J. Keay.

Near by, in High-street, is a tall shop by Messrs. Nicol & Nicol, built by Mr. W. Bishop, with steelwork by Messrs. Keay, and at the corner of Carrs-lane and Moor-street we find another large block by the same architects, carried out by Messrs. J. Dallow & Sons, with ferro-concrete work by Messrs. Stuart. Near by, in Albert-street, is a large building for Messrs. Churchill, Ltd., occupying a commanding triangular site. The architect was Mr. G. E. Pepper, the general contractor being Mr. C. Bryant. Messrs. S. Taylor & Co. supplied the steelwork for this building.

Continuing to explore the same immediate neighbourhood and returning from Albert-street into Moor-street, we come to the extensive new work for the G.W.R., comprising a passenger station for dealing with the increase in the suburban traffic, and a large new goods station, the latter being a ferro-concrete structure on the Hennebique system. Messrs. Thomas Rowbotham were the general contractors in each case. Further east, in Bartholomew-street, are the new premises for Messrs. Chamberlain & Hookham, built by Mr. E. H. Thompson, from designs by Mr. D. McKewan, with concrete floors by Stuart's Granolithic Company. Following the Great Western Railway line as nearly as possible, we come to Oxford-street and the factory for Messrs. Walker Bros., designed by Messrs. Buckland & Farmer, and carried out by Messrs. R. Fenwick & Co., whose work included the ferro-concrete floors on the Coignet system.

A short distance lands us in Digbeth, hard by the large new police-station, erected by Messrs. Elvins & Sons, from designs by Mr. J. E. Stilgoe, of the City Surveyor's Department. Continuing westward along Bromsgrove-street, we find on one side, in Kent-street, the interesting new women's baths, by Messrs. Cossins, Peacock, & Bewlay, which were built by Messrs. B. Whitehouse & Son. The galleries and swimming-pond were carried out by the Empire Stone Company. On the other side of Bromsgrove-street, in Essex-street, Messrs. Ewen & J. Harper designed the extensions to the works of Mr. F. Marsh, which were carried out by Messrs. W. J. Whittall.

Turning now into Horse Fair, we come soon to Windmill-street and the new premises built by Messrs. Sapcote & Sons for Messrs. Bowman & Co. from the designs of Messrs. Cossins, Peacock, & Bewlay. We are now approaching New-street Station again, and in John Bright-street notice the fine block designed by Mr. Marcus O. Type, of which the ground floor is occupied the showrooms of Heath's Garage, Ltd. Mr. F. Swift was the builder, the floors being of concrete on the Kahn system.

Near by, the site is being cleared for a large new cinema theatre, and opposite the entrance to the Midland Station is the Repertory Theatre, designed by Mr. S. N. Cooke and built by Messrs. John Bowen & Sons.

Climbing up Hill-street, we find ourselves back at the top of New-street, in Victoria-square. Opposite the Town Hall, at the commencement of Paradise-street, one notes the disappearance of the sturdy Classic façade of the Inland Revenue Offices, which occupied the corner site. In its place is arising the large new Parcels Office, from designs by Messrs. E. Cropper & H. Collins, of H.M.O.W., which is being built by Mr. E. Crowder, the skeleton steel structure coming from Messrs. Dorman, Long, & Co. A striking feature is made by the row of large steel windows, several floors in height, supplied by Messrs. Bigwood Bros. and Godfrey & Co., and a further point of interest is the steel bridge, faced with Portland stone, that spans Hill-street, providing communication with the post-office across the road.

Paradise-street is short, but two more buildings worth inspection bring us down it. The first is Daimler House, designed by Mr. A. Gilbey Latham, the contractors being the Building Construction Company. Messrs. Redpath Brown & Co. and Wade & Co. supplied the steelwork. The other building referred to is the large block erected on the site of the old canal wharf and offices to the designs of Mr. S. N. Cooke by Messrs. John Bowen & Co. The ferro-concrete floors are on the Kleine system, and the steelwork by Messrs. Cloade & Co. The erection of this building unfortunately involved the demolition of one of the few interesting survivals of former times in Birmingham—a city conspicuously poor in such possessions. We refer to the eighteenth-century entrances and toll and gate houses of the Canal Company, which formed a charming group, the disappearance of which caused keen regret.

Retracing our steps, we pass the old Council House and come to the extension, as large a building as the original one, won in competition by Messrs. Ashley & Winton Newman. The contract was a very large one three contractors having been concerned in it, viz., Messrs. T. Rowbotham, the Building Construction Company, and Messrs. J. Barnsley & Sons. Messrs. C. Wade & Co. supplied the steelwork.

The fine street that is Colmore-row contains little new work, the most notable being the Atlas Assurance building, erected by Mr. W. Bishop from the designs of Mr. Paul Waterhouse. At the Grand Hotel various internal alterations have been carried out by Messrs. John Bowen & Sons, under the superintendence of Messrs. Nicol & Nicol.

Colmore-row terminates at Snow-hill Station, and here the Great Western Railway has but recently completed a great reconstruction scheme, the result being one of the finest stations in the kingdom. The general contractors were Messrs. T. Rowbotham & Co., the vast amount of steelwork used being supplied by Messrs. E. C. & J. Keay, Ltd. Opposite the station is Messrs. Boots' large new shop, built by Messrs. J. Barnsley & Son, and near by, in Steelhouse-lane, are new buildings for Messrs. A. & W. Cashmore, designed by Messrs. Ewen & J. A. Harper. They were built by Mr. C. Bryant, with concrete floors by the Empire Stone Company, and steelwork by Messrs. C. Wade & Co.

(To be continued.)

DEMARCATION DISPUTES AND THEIR SETTLEMENT.

AT the last quarterly meeting of the National Board of Conciliation for the Building Trades representatives were received from the undermentioned operative societies in conference to consider the advisability of forming representative Standing Joint Committees to deal solely with demarcation cases:—

Amalgamated Slaters and Tilers.
Navvies', Builders' Labourers', and General Labourers' Union.
Electrical Trades Union.
Amalgamated Society of Woodcutting Machinists.
United Builders' Labourers' Union.
National Association of Operative Plasterers.
National Amalgamated Society of Painters.
Operative Bricklayers' Society.
Operative Plumbers' Association.
Heating and Domestic Engineers.

The Secretary explained that the meeting arose out of the following resolution of the National Board passed in 1913:—

That this Board considers that steps should be taken to bring about permanent Demarcation Committees representative of all trades concerned, with a view to dealing with demarcation disputes in the building trade.

In consequence of the disturbed state of the trade, however, the matter has had to lie over until now. He went on to say that whereas the conciliation scheme deals mainly with disputes between societies of operatives and associations of employers, although it is willing to deal with others, the present suggestion is for an independent scheme to work alongside the conciliation scheme, but to deal exclusively with disputes as to demarcation of work, which are essentially disputes between societies of operatives into which associations of employers are drawn, because the disputing parties usually start their quarrels on the jobs of their employers.

It is suggested because it has been observed that the main stumbling-block to a reference of a recent dispute in Liverpool was that, although both the bricklayers and the plasterers belonged to conciliation schemes which were capable of handling demarcation disputes, yet they did not belong to any common scheme, and therefore each refused the jurisdiction of the scheme to which the other belonged. This conference has been called therefore in order to ascertain whether there is any general willingness to form a demarcation scheme to work alongside but independently of the conciliation schemes. There need not be any objection to the same men serving on both schemes, however, if thought desirable.

If this conference decides affirmatively it is proposed to consult similarly the corresponding employers' national associations, and, if they are also willing, then a combined conference

will be called at which provisional rules will be tabled as a basis for discussion.

Arising out of that conference the provisional rules, if approved, or as amended, could be remitted to the general bodies represented at the conference with such recommendations as the conference thinks desirable, or they could be remitted to a committee appointed by the conference for further consideration and report.

Ultimately, of course, the proposals would require to be approved by the general bodies concerned before they could become effective, just as was done for the conciliation schemes.

After discussion the following resolution was carried:—

That this conference approves of the suggestion to form Standing Joint Committees, representative of all the trades represented at this conference, and of any other trades which may be hereafter made parties hereto, for the purpose of dealing exclusively with demarcation disputes which may arise between the parties, and requests the National Board of Conciliation to be good enough to continue its good offices in order to bring about such a result.

Some general discussion then ensued as to the kind of machinery it was desirable to set up for the purpose in view, such as the importance of settling cases promptly and with due regard to local custom.

Eventually a motion was agreed to that a Sub-Committee consisting of four a side should be appointed to draw up a draft scheme for consideration at a future conference.

It was announced that the operative representatives were:—Messrs. S. Stranks (Masons' Society), J. Batchelor (Bricklayers' Society), W. J. Wentworth (Woodcutting Machinists' Society), and F. Kennedy (United Builders' Labourers' Society).

The Chairman said the employers would defer the selection of their four representatives until they met the representatives of the other employers' national branch trade associations.

NEW COMPANIES.

THE undermentioned particulars of new companies recently registered are taken from the Daily Register compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, Chancery-lane, W.C.:—

E. HEATHER & SONS, LTD. (138,765), 8, Queen's-road, Battersea, S.W. Registered December 24. To acquire business of builders and decorators heretofore carried on by E. E. Heather and C. E. Heather, at Queen's-road, Battersea. Nominal capital, £1,000 in 200 Preference and 800 Ordinary £1 shares.

GEORGE ROGERSON, LTD. (138,782), Indian Cottage, Bank-street, Morley, Yorks. Registered December 28. To acquire from Henry Rogerson, of Morley, business of a slater, tiler, and slate and tile merchant, and to carry on business of slaters, tilers, and roofing cloth contractors, and to carry on business of dealers in brick, stone, ironwork, galvanised iron, glass, and all roofing materials. Nominal capital, £1,500 in £1 shares.

FRED. HODGE, LTD. (138,798), 13A, Finsbury-square, E.C. Registered December 29. To acquire and carry on business of a wholesale builders' merchant, carried on by Mr. F. Hodge, of 724, Holloway-road, N., Midland Railway Sidings, Upper Holloway, N., and 106 and 108, High-street, Hornsey, N. Nominal capital, £25,000 in 10,000 Preference and 15,000 Ordinary £1 shares.

ELECTRO GALVANISERS, LTD. (138,767), 18, St. Swithin's-lane, E.C. Registered December 24. Engineers and contractors, ironfounders, and manufacturers of agricultural implements and other machinery, tools, etc. Nominal capital, £20,000 in 12,000 Preference, 5,000 Second Preference, and 3,000 Ordinary shares.

TOWN AND PROVINCIAL ESTATES, LTD. (138,786), 34, George-street, Hanover-square, W. Registered December 28. To acquire lands, hereditaments and buildings, and to develop and turn same to account by building, rebuilding, constructing, reconstructing, altering, improving, and maintaining buildings and works, and by consolidating, connecting, and subdividing properties. Nominal capital, £20,000 in £1 shares.

N. F. PROPERTY INVESTMENTS AND DEVELOPMENT COMPANY, LTD. (138,800). Registered December 29. Buyers and sellers of and dealers in land, shops, houses, factories, and buildings, contractors, builders, engineers, estate developers, etc. Nominal capital, £2,500 in £1 Ordinary shares.

ALDWYCH OFFICES, LTD. (138,838), 68, Lincoln's Inn-fields, W.C. Registered January 1. To enter into an agreement with the London County Council for the erection of buildings on a site at the corner of Aldwych and on the west side of Kingsway, London, and to carry on business of dealers in property, building contractors, merchants, and dealers in stone, sand, lime, bricks, and other building requisites. Nominal capital, £21,000 in £1 shares.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; L.G.B. for Local Government Board; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

BARROW-IN-FURNESS.—Plans passed:—Power-house in Bridge-road, for Messrs. Vickers, Ltd.; four houses in Farm-street and one house in Dunoon-street, for the Cavendish Park Estates Company; five houses in Newcastle-street, for Mr. P. H. Fisher; forty-five houses in Dartmouth-street and forty-eight houses in Liverpool-street, for Messrs. Vickers, Ltd.; two pairs of semi-detached houses in Longreins-road, for Messrs. J. H. Neal & Son, Ltd.; one pair of houses at the corner of Oxford-street and Clarence-road, for Mr. Joe Neal.

Bath.—The Baths Committee are recommending the T.C. to remodel the bathing establishment at an estimated cost of over £20,000.

Birmingham.—The T.C. have decided to proceed with the erection and equipment of a temporary electric supply station at Nechells, at an estimated cost of £97,300.

Bolton.—Plans passed:—Messrs. J. Ashworth, Ltd., addition to engine-house in Holland-street; Bolton Corporation Parks Committee, shelter in Mitre-street; Mr. J. Arrowsmith, two cellars in Andrew-lane Astley Bridge; Messrs. W. Smith & W. Horrobin, coal sheds in Parkdale-road, Tonge; Mr. J. Bramhall, additions to Junction-road Villas; Mr Heaton, motor-shed on Junction-road; Mr. T. Woods, house, Chorley New-road; Mr. T. E. Smith, two houses in New Hall-lane; Mr. F. M. Cottrell, shed at 660, Chorley Old-road; Messrs. Magee, Marshall, and Co., Ltd., brewery in Cricket-street; Mr. W. Thornley, boiler-shed in Church Wharf; Mr. G. Hargreaves, eight houses in Bennett's-lane.

Boston.—The T.C. has resolved to apply to the L.G.B. for sanction to borrow £3,600 for the erection of a refuse destructor.

Bournemouth.—Plans passed:—Additions, "Bridge House," Cleveland-road, Mr. A. Gould; house, Portland-road, Messrs. Bailey & Bartlett; conversion of houses into shops, Nos. 57 and 59, Charminster-road, Mr. S. G. Brown; house, Stourcliffe and Pincoliffe-avenue, Mr. H. H. Dixon; motor-house, Queen's Park Hotel, Messrs. Strong & Co.; addition to shop, 3, The Parade, Wimborne-road, Messrs. Wareham & Dale; additions, "Needwood," Hinton-road, Miss Fiennes; additions to house, Queen's Park West-drive, Mr. H. G. Austin; additions, "Medina," Montagu-road, Mrs. Lucas Carnelli; additions to workshop, Rebbeck-road, Mr. J. Park; parish hall, St. Luke's-road, the Buildings Committee of St. Luke's; eight houses, Spring-road, Mr. J. Newbury; garage, Poole-road, Mr. W. A. Dinnivan; additions, Palmerston Hotel, Christchurch-road, Messrs. Whitbread & Co., Ltd.; Wesleyan School, Holdenhurst-road, the Committee; additions to house, Watcombe-road, Mrs. Farrell; ten houses, Castlemain-avenue and Inverleigh-road, Mr. F. Golton; house, St. Alban's-avenue, Mr. E. A. Insley; house, Stokewood-road, Mr. G. E. Lambert; additions, "Dene Thorpe," Grosvenor-road, Mrs. Way; additions, 138, Christchurch-road, Mr. F. Street; house, Portland-road, Mr. H. Hiscock; house, Pine-avenue, Messrs. Burridge & Bovil; additions, Durley Dean Mansions, Mr. W. J. Evans; alterations to shops, Nos. 42 and 42A, Seabourne-road, Mr. R. Holly; additions to house, Milner-road, Messrs. F. Hoare & Sons; house, Queen's Park-drive, Mr. F. W. Burton; additions, The Manchester Hotel, St. Michael's-road, Mr. W. Mattocks; house, Boscombe Cliff-road, Mr. T. Collins; additions, "Cashmere Lodge," Alumdale-road, Mr. P. S. J. Perceval.

Brentwood.—The Essex C.C. has passed plans of a house for the senior resident medical officer at the Asylum.

Bridlington.—The T.C. has decided to erect a refuse destructor at the electricity works.

Brixham.—The U.D.C. have arranged with the Public Works Loan Commissioners for a loan of £3,810 for housing purposes.

Burton-on-Trent.—A L.G.B. inquiry has been held concerning the application of the T.C. to borrow £30,000 for the construction of a continuation of the duplicate rising main in connection with the sewage disposal works.

Cardiff.—The Board of Trade have received from the Mount Stuart Dry Docks, Ltd., an application to construct a new graving dock on the western side of their existing docks to reclaim certain foreshore on the south and west sides of their yard.

Carshalton.—Plans have been approved by the U.D.C. for five houses and one shop, the Beeches-avenue, for Mr. E. J. Tinniswood.

Chorley.—Messrs. Woodhouse & Howard have been appointed architects for the baths scheme.

The L.G.B. have approved of the T.C. borrowing £3,963 for private street improvements. Plans have been approved for semi-detached houses in Rylands-road and three houses in Devonshire-road, for Mr. W. Hampson, and for extensions and lay-out of land in Bolton-road for the Leyland Motors, Ltd.

Clacton.—The U.D.C. have decided to proceed with the completion of the West Cliff improvement at a cost of £450.

Conway.—A scheme for the erection, at a cost of about £6,000, of cottage homes for the children on land for the purpose acquired at Llandudno Junction is before the B.G., and the plans have been prepared by Mr. S. Colwyn Foulkes, Colwyn Bay, the architect whose designs were awarded the prize in a recent competition.

Darlington.—The T.C. have decided to apply to the L.G.B. for sanction for a loan of £18,500 for alterations and extensions of the electricity undertaking.

Eastbourne.—Plans passed:—Mr. Henry Brown, new sculleries and drainage, 95, 97, 101, 103, and 107, also 85, 87, 89, 91, and 93, Longstone-road; Mr. D. Meakins, workshop, 162, Longstone-road (East); Messrs. Spain & Albury, shop front, 14, Grand Hotel-buildings; Col. Webster, alterations to Compton Hurst, Dittons-road.

Exeter.—The Water Committee recommend that application be made to the L.G.B. to sanction the borrowing of £8,824 for the duplication of the machinery and other extensions of the waterworks.

Glasgow.—The Parish Council have resolved to erect additional accommodation at Gartloch, in separate pavilions, for 300 patients.

Hastings.—Plans passed by T.C.:—Lavatory accommodation at the Hertfordshire Convalescent Home, West Hill, St. Leonards; the Committee of the Hertfordshire Convalescent Home, owners, per Messrs. Adams & Jarrett, builders; conversion into flats of 9, Tower-road, St. Leonards, Messrs. Meadows, Thorpe, & Menneer, owners, Mr. Philip Tree, architect.

Hendon.—The R.D.C. have approved plans for a new station on the Metropolitan and Great Central Railways Companies' lines between Harrow and Pinner, to be called North Harrow.

Linthwaite.—Plans for a warehouse at Spring Grove Mills for Messrs. Geo. Mallinson & Sons have been approved.

Loughborough.—The plans for the domestic course centre on the Bridge-street site have been approved. The estimated cost is £1,850, and the architects are Messrs. Barrowcliff & Allcock.

Manchester.—The T.C. have decided to purchase land at Chorlton-cum-Hardy for the erection thereon of public baths.

Middlesborough.—Plans passed for glue factory in Morris-street, for the Transparent Glue Company.

Nelson.—The T.C. have decided to apply to the L.G.B. for sanction to borrow £8,910 for private street works They have also approved a scheme for public abattoirs at an estimated cost of £14,940.

Poole.—Plans passed:—Dwelling house, additions to "Woodlyn" stables, Tower-road, Messrs. Insley & Insley, for Mr. J. B. Russell; garage and alterations to "Wynn Croft," St. Clair-road, Messrs. Golton Bros., for Mr. Harding; stable and shed, rear of dwelling-house, Wallisdown, Mr. W. N. Rudge, for Mrs. Riley.

Preston.—Plans for two houses at Longton, for Mr. James Wright, have been passed by the R.D.C.

Reading.—Plans passed:—Two pairs of semi-detached houses in Allcroft-road, for Messrs. J. Davis & Sons; building by Pulsometer Engineering Company at Nine Elms Iron Works.

Romford.—Plans passed by U.D.C.:—Twenty houses in Kensington-road, for Mr. George Brown, and a house in Squirrels Heath-avenue, for Gidea Park, Ltd. The L.G.B. have sanctioned the U.D.C. borrowing the following sums:—£11,281 for wood paving, £9,616 for foundations, sett paving, and kerbing, and £4,184 for surface water and foul sewers. Plans passed by R.D.C.:—Two detached houses, Park Farm-road, Rainham; a house on the east side of Berwick-road; conversion of Rainham Lodge into two cottages on the west side of Berwick-road; alterations to cottage near Rainham Lodge, Berwick-road, Rainham; two sets of farm buildings (stable, bunching shed, and cart shed), near cottages in Park Farm-road. (All these buildings are on the Rainham Lodge Farm, which has been acquired by the Essex C.C. for small holdings.) A house and farmstead, Church-road, Harold Wood, for Mr. A. Clyde; stables and loft, Aveley-road, Upminster, for Mr. T. E. Starr.

Salford.—The T.C. have decided to apply to the L.G.B. for powers to borrow £18,252 to provide and equip a transformer sub-station in the Greengate district, and £25,000 for the proposed extension of high-tension mains from the Frederick-road station to the proposed sub-station in Greengate, and the provision of low-tension mains.

Somerset.—The Standing Joint Committee have decided to acquire land at Curry Mallett, Nunnery Catch, and High Littleton, for police cottages.

Sowerby Bridge.—Approval has been given by the U.D.C. to the plans of the Surveyor for new baths on the existing site.

Southend.—A L.G.B. inquiry has been held into the application of the T.C. to borrow £2,675 for the purchase of land adjoining Eastwood-lane for purposes of a recreation ground and an electricity sub-station, and the improvement of Eastwood-lane, and of £1,970 for the construction of underground sanitary conveniences.

Stourbridge.—Plans passed for a house and shop in Coventry-street, for Mr. A. Simmonds; four houses in Heath Lane, for Mr. W. Drew; alterations to existing premises at 66A, High-street, for the United Counties Bank, Ltd.; new bank premises and offices at the corner of High-street, for the London City and Midland Bank, Ltd.; alterations to existing premises at 40, High-

* See also our list of Competitions, Contracts, etc., on page 73.

street, for the London City and Midland Bank, Ltd.

Stowupland.—An inquiry has been held by the L.G.B. into the application of the East Stow R.D.C. to borrow £2,393 for housing. Mr. H. H. Simon is the architect.

Swansea.—Plans passed by the R.D.C.:—Mr. T Lewis, Sterry-road, Gowerton, alterations to shop; Mr. H. Jones, Heol Las, Birchgrove, stable and bakehouse; Mr. T. Davies, New-road, off Mason's-road, Gorseinon, fourteen houses.

Wanstead.—The L.G.B. have sanctioned the borrowing by the U.D.C. of £580 for the erection of a cottage and the construction of an approach road to the isolation hospital.

Waterford.—The L.G.B. have informed the T.C. that they have recommended to the Commissioners of Public Works the loan of £23,138 for the purpose of erecting working-class dwellings under the Housing of the Working Classes Act.

Wigton.—Plans for proposed extensions to Messrs. Carr, White, and Co.'s jam factory have been passed by the U.D.C.

Winchester.—The T.C. has approved of a scheme for widening Bridge-street, necessitated by the military traffic, at a cost of £2,130.

York.—Inquiry has been made by the L.G.B. as to the T.C.'s application to borrow £19,000 for the electricity undertaking

GENERAL BUILDING NEWS.

CATHEDRAL OF ST. PAUL, KAMAPA, UGANDA.

The foundations of the Cathedral of St. Paul, Kamapa, Uganda, from the designs of Professor Beresford Pite, have been completed under the superintendence of Messrs. Tate-Smith & Henderson, architects, of Nairobi, British East Africa, and Kampala, Uganda, and it is expected shortly to proceed with the superstructure, for which estimates are now being prepared. Mr. James K. Watson, of Nairobi and Kampala, was the contractor for the foundations.

NEW ART GALLERY, GATESHEAD.

A new art gallery is being erected in Prince Consort-road, Gateshead. The building is set back from the roadway some 22 ft., which allows of the provision of a carriage-drive to the main entrance and portico, which is raised, and is approached by steps. Beyond the portico are a vestibule and an entrance hall. The main portion of the building consists of five picture galleries, arranged with the main gallery, 80 ft. by 40 ft., in the centre, and two smaller galleries, each 44 ft. by 28 ft., on each side. The flooring is constructed in fireproof material, finished in marble, mosaic, and parquetry; the woodwork is in polished oak; and the front of the building is of stone. The plans and designs have been prepared by Mr. Arthur Stockwell, M.S.A., architect, of Newcastle and Gosforth, and the contractors are Messrs. J. & W. Lowry, of Corporation-street, Newcastle.

FACTORY ADDITIONS.

Large extensions are being carried out on the Kahn system of reinforced concrete at Messrs. Vickers' factory, Crayford, Kent, amounting to about £18,000. The general contractors are Messrs. William F. Blay, Ltd., Railway House, Dowgate-hill, E.C., and at Dartford.

REBUILDING CITY PREMISES.

Messrs. Patman & Fotheringham, Ltd., of 100 and 102, Theobald's-road, London, W.C., and also of Park-street, Islington, N., have secured the contract for rebuilding No. 2, Royal Exchange-avenue, and Nos. 19, 20, and 21, Finch-lane, E.C., for the British Dominions General Insurance Company, Ltd. The architect is Mr. A. H. Moore, A.R.I.B.A.

TRADE NEWS.

An extension to Messrs. Boardman's at Stratford is being commenced by Messrs. E. A. Roome & Co., Urswick-road, Hackney, under the supervision of Messrs. George Baines & Son. A feature of the contract is the very short time in which the work has to be executed.

Boyle's latest patent "air-pump" ventilators have been applied to Mill-street Wesleyan School, Leek.

The architects for the Staff Institute belonging to Messrs. Swann & Hunter, of Wallsend-on-Tyne, are having the artificial stonework for this building treated with the powder "Pudlo." Apart from the waterproofing properties of the powder, it is reported to give artificial stone a bright and clean appearance with sharp, clear-cut arrises.

The Runcorn new town's depôt is being supplied with Shorland's patent exhaust roof ventilators by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

"THE NATIVITY," ST. MARY'S, BEDDINGTON.

In reference to the illustration of "The Nativity" which appeared in our last issue, p. 24, it was incorrectly stated that this sculpture work was from the reredos in the Carew Chapel, St. Mary's, Kennington. This should have read as St. Mary's, Beddington, Surrey.

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the Building Trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur:—

——	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Aberdare	9	—	9½	9½	—	9	8	6½	6½	6½
Accrington	10	9½	9½	9½	9	9	9½	6½	6½	6½
Altrincham	9½	10	10½	10	8½	10	9	6½	6½	6½
Ashton-under-Lyne	10½	10½	10	10½	9	10	9	6	6	7
Barnsley	9½	9½	9½	9½	9	9	8½	7	7	7
Barrow-in-Furness	9½	10	9½	9½	9½	9	7	7	7	7
Barry	9½	9½	9½	10	—	9	8½	6½	6½	6½
Bath	8½	8½	8½	8	7½	8	7½	5½	5½	5½
Bedford	8	8	8	8½	8	9	6½	5	5	5½
Birkenhead	11	11	11	11½	11	11	9½	7	7	7
Birmingham	10½	10½	10½	10½	9½	10½	9½	7½	7½	7½
Bishop Auckland	9	9	9	9	10	9	7½	6	6	6½
Blackburn	10	10½	10	9½	9½	10	9½	6½	7	7
Blackpool	10½	9½	9½	9½	8½	9	8½	6	6	6
Bolton	10	10½	10	10½	9½	10	9½	6-7	6-7	6-7
Bournemouth	8½	8½	8½	8½	8½	8½	8	6	6	6
Bradford	10	10	9	9½	9½	10	8½	7	7	7
Bridgwater	6½	6½	6½	6½	6½	6½	6	4	4	4
Brighton	9	8½	8½	8½	—	8	7	6	6	6
Bristol	10	10½	10½	10	—	10	9½	7½	7½	7½
Burnley	10	9½	9½	9½	8	9	9½	7	7	7
Burton-on-Trent	9	9	9	9	8½	9	8½	6½	6½	6½
Bury	10½	10½	10	9	9½	10	9	6	6	6
Cambridge	9½	9	9	9½	9½	9½	7½	6	6	6
Canterbury	8½	8	8	10	—	8½-9	6½	5	5	6
Cardiff	9½	9½	9½	9½	9½	9½	8½	7	7	7
Chatham	8	9	9	9	9	9	7	6	6	6
Chelmsford	8	7½	8½	9	—	7½	6½	5	5	6½
Cheltenham	8½	8½	8½	8½	—	8½	8	6	6	6
Chester	9½	10	9½	9½	9½	9½	8½	5½	6½-6½	5-5½
Chesterfield	9	9	8½	8	9	8½	8½	5½	5½	5½
Colchester	8	8½	8½	9	8	9	6	5½	5½	5½
Coventry	10½	10½	10½	10½	9½	10½	8½	7½	7½	7½
Crewe	7	8	7½	9	8	8	7½	5	5½	6
Darlington	9½	9½	9	10	10	9	8½	6½	6½	6½
Derby	9½	9½	9	9	9	9	8	6½	6½	7
Doncaster	9½	9½	9	9	9	9	8	6½	6½	7
Dudley	8½	8½	8½	8½	8½	8	7½	5½	5½	5½
Durham	9	9	9½	9	10	9	8½	6	6	6½
East Glamorgan and Monmouthshire Valleys	9½	9½	9½	9½	—	—	8½	6½	6½	6½
Exeter	8	8½	8	8	7½	7½	7	5½	5½	5½
Folkestone	8½	8½	8½	9	8½	8½	7-7½	6½	6½	6½
Gloucester	8	8½	8½	8	8	8½	8	6	6	6
Grantham	8	8	7½	7½-8	7½-8	7	6½	5	5	5
Grays	—	10	10	—	—	9½	8½	7	7	7
Grimsby	9	9	9	9	9	8	8½	7	7	7
Great Yarmouth	8	8	8	—	8	8	6½	5	5	—
Halifax	10	10	9	8½	8½	9	8½	7	7	7
Harrogate	9½	9½	9	9	8	9	8½	6½	6½	6½
Hartlepools	9	10	9½	10	10	10	9	7	7	7½
Hastings	8½	8	8	8½	8	8	7	6½	5½	6½
Hereford	8	8	7½	8½	8	7	6½	5½	5½	5½
Huddersfield	10	9½	9½	9½	10	9	8½	7	7	7
Hull	10½	10	10	10	10	9½	8½	7½	7½	7½
Ipswich	8½	8½	8½	9	9	8½	7	5½	5½	5½
Lancaster	10	10	9	9	9	9	9	5½	6	6
Leamington Spa	9	9	9	8½	8½	8½	7½	6	6	6
Leeds	10	10	10	10	9	10	8	7½	7½	7½
Leicester	9½	9½	10	10½	9½	9½	9	7	7	7½
Lincoln	9	8½	8½	9	8	8½	8	6	5½	6
Liverpool	11	11	11	11	10½	11	9½	7	7	7
Llanelly	9½	9½	9½	8½	9	8½	8	5½	5½	5½
London	11½	11½	11½	11½	—	1s.	9	8	8	8
Loughborough	9	8½	8½	9	9	8½	7½	5½	5½	5½
Luton	9½	8½	8½	8½	9	8½	7½	5½	5½	5½
Maidstone	9	9	9	9	9	9	8	6	6	6
Manchester	10	10½	10½	11	10	10	9½	6½	6½	7½
Mansfield	8½	9	8½	8½	—	8½	8	6	6	—
Merthyr Tydfil	9½	9½	9½	9½	8½	9	8	6½	6½	6½
Middlesbrough	9	10	9½	10	10	10	8½	7	7	7½
Newcastle-on-Tyne	10½	10½	10½	10½	10	10	9	7½	7½	7½
Newport, Mon.	9½	9½	9½	9½	8½	9½	8½	6½	6½	6½
Northampton	9	9	9	9	8½	9	8	6	6	6
Norwich	8	8½	8½	8½	8	8½	7	5½	5½	5½
Nottingham	10	10	10	10½	9½	10	9	7½	7½	8
Oldham	10½	10½	10½	10	9	10	9½	7	7	7½
Oxford	9½	9	9	9	8	9	8	7	7	7
Plymouth	9	9	9	9	9	9	7½	6	6	6
Pontypridd	9½	9	9	10	9	9	8	6½	6½	6½
Portsmouth	9½	9½	9½	9½	—	8½	7½	7	7	7
Preston	10½	10½	10	9½	9½	10	9½	5½	6	6½
Reading	8½	9	9	9½	—	9	7½	6	6	6
Rochdale	10	10½	10	10	8½	9½	9	7	7	7½
Rochester	8	9	9	9	9	8½	7	6	6	6
Rugby	9½	9½	9½	9½	8	9½	8½	6	6	6
St. Albans	9	9	9	9-10	9	9-10	8	6½	6	6½
St. Helens	9	9½	10	9½	9½	9½	9½	6	6	6
Scarborough	8½	9	8½	8½	8	9	8	6½	6½	6½
Sheffield	10½	9½	9½	9½	9½	9½	8½	6½	6½	6½
Shrewsbury	8½	8½	8½	9½	—	8½	7	5½	5½	5½
Southampton	8½	9½	9½	8½	—	9½	8½	6½	6½	6½
Southend-on-Sea	9	9	9	9	P'cework	9	7	6	6	6
Southport	10	10	9½	9½	9½	9½	9½	6	6½	6
South Shields	10½	10½	10½	10½	10	8½	9	7½	7½	7½
Stockport	10½	10	10	10½	9	10	8½	6	6½-7	7½
Stockton-on-Tees	9	10	9½	10	10	10	9	7	7	7½
Stoke-on-Trent	9	9½	9	9	—	8½	8½	6	6	—
Stroud	7½	7½	7½	7½	7½	7½	7	5	5	5
Sunderland	10	10½	10	10	10	9	9	6½	6½	7
Swansea	9½	9½	9½	9½	8½	9	9	6½	6½	6½
Taunton	7	7	7	7	—	6	6½	4½	4½	4½
Torquay	8	8	8	8	8	8	8	6	6	6
Wakefield	9½	9½	8½	9½	8½	9	8	7	7	7
Walsall	9½	9	9	9	8½	9	8	6½	6½	6½
Warrington	8½	9½	9½	10	8½	9½	8½	5½-6	6	6 6½
West Bromwich	10	10	9½	9½	—	9	8	7	7	7
Wigan	10	10½	9½	9½	9	9½	9½	7	7	7
Windsor	9	9	9	10	—	9	—	6	6	6
Wolverhampton	9½	9½	9½	10	8	10	8	6½	6½	6½
Worcester	8½	9	9	9	8½	9	7½	6	6	6
York	9½	9½	9	9½	9½	8½	8	6½	6½	6½

The mason's rate given is for bankers; fixers usually ½d. per hour extra.

The Crown Inn, Wychbold, near Droitwich.
Mr. A. T. Butler, F.R.I.B.A., Architect.

THE CROWN INN, WYCHBOLD, NEAR DROITWICH.

THE building has recently been completed. The old building, dating from 1621, was in such a state of collapse as to make preservation impossible. In the new building the old tiles are used on the roof. All the external woodwork is in English oak, and the internal fittings are in the same material.

The builders were Messrs. J. & A. Brazier, of Bromsgrove. A. T. BUTLER.

BOOKS.

Dedications and Patron Saints of English Churches; Ecclesiastical Symbolism; Saints and Their Emblems. By FRANCIS BOND, M.A., F.G.S., Hon. A.R.I.B.A. (Humphrey Milford, Oxford University Press. 1914. Price 7s. 6d. net.)

THIS admirable and scholarly work fully carries out the wish of its author in the opening sentence of his Preface that it "should be pleasant to read, for it has been pleasant to write." The first part deals with the meaning and classes of dedications in England, the saints Biblical, royal, and otherwise, with the numbers of churches dedicated to each, and a number of chapters dealing with the subject generally. Especially noteworthy are the chapters dealing with the churches dedicated to the evangelisers of Western Europe and Ireland, Anglo-Saxon England and Scotland, and the very curious cases of compound, lost, alternative, and spurious dedications, as well as those to uncanonised saints. The second part is an account of ecclesiastical symbolism; the third consists of alphabetical lists of emblems of the saints and of saints with their emblems, and the book concludes with excellent indices. A special word of praise should be given to the excellent bibliography prefixed to the text.

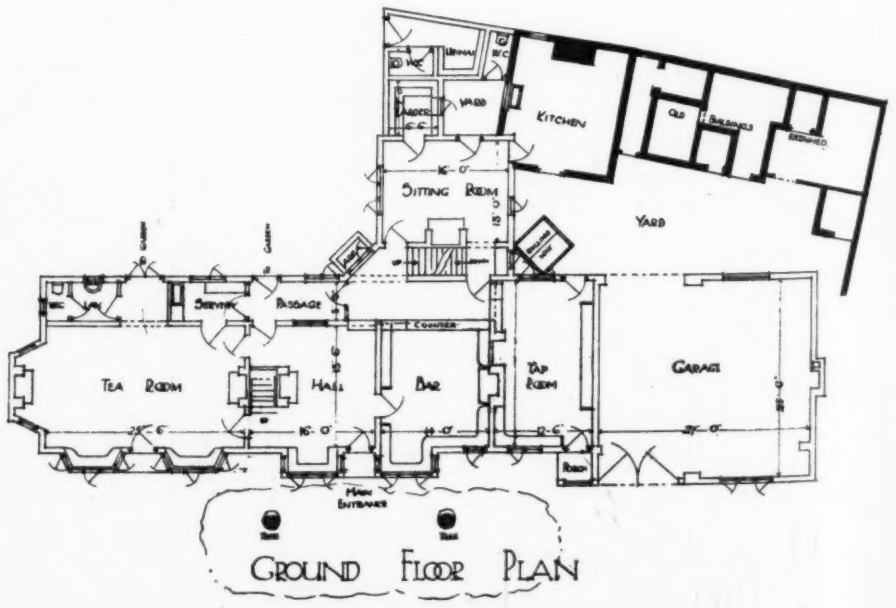
The facts as to early dedications revealed in this book, though based upon Miss Arnold Foster's "Studies in Church Dedications," emerge for the first time in their full force stripped of all eighteenth and nineteenth century examples, and the results are, as Mr. Bond says, surprising. To the Virgin no less than 2,335 churches are dedicated; to All Saints and All Hallows, 1,255; to St. Peter, 1,140; next come St. Michael and St. Michael and All Angels with 687 and St. Andrew with 637; but who shall say why St. John the Baptist should stand next with 500 and St. John the Evangelist have only 181; or why so obscure a saint as St. Leonard should stand next with 173? Holy Cross and Holy Rood have 106, St. Thomas of Canterbury eighty, and both far surpass St. Stephen with forty-six and St. Luke with twenty-eight. St. Chad has as many churches (thirty-three) as St. Matthew, but St. Barnabas, with his thirteen, is far outstripped by St. Gregory with thirty-two, St. Augustine of Canterbury with thirty, St. Benedict of Monte Cassino with twenty, and St. Edward the Confessor with seventeen. It is surprising to find saints so apparently obscure as St. Pancras of Taormino with ten dedications, St. Julian Hospitaller with seven, and St. Samson of Dol with six; and, though the thirty-eight churches dedicated to our Lord and the poor three to the Holy Ghost or Holy Spirit are explained by the author as arising from the ever-growing tendency to attach great importance to the intercessory power of the saints, to the belief in the efficacy of their mediation, which is already to be found in Christian doctrines and practice even as early as the fourth century, the figures come as a surprise after the 297 dedications to the Trinity.

The popularity of SS. Andrew and Matthew is explained by the author by the help of the apocryphal legend of the mission of these apostles to the City of Dogs, the inhabitants of which were cannibals. This city, whose other name was Wrondon, was converted by their miracles; the whole story is related on ten panels of stained glass in the Church of Greystoke, Cumberland, dated 1520. Something of the same picturesqueness doubtless accounts for the popularity of such saints as St. Martin of Tours and St. Nicholas, the latter of whom, as the patron of children, naturally received more than his canonical share of attention; just as Artemis and Hecate received the vows of mothers in the ancient world; so also men turned to St. Roch, the patron of the plague-stricken, as to the Apollo Alexikakos of the Greeks for deliverance from that plague and pestilence which are formulas to us to-day, but were the heartfelt cry of mankind in the Middle Ages.

In England, as in all mediæval countries, there was a large amount of local loyalty in the selection of a patron saint, especially in the independent north, where the influence of Rome was less direct than in the province of Canterbury. Signs of this may be seen not only in the numbers of purely northern saints such as St. Wilfrid and St. Chad, but in the high position held by St. Michael, which may be a survival of Celtic Christianity. The "grateful remembrance, pleasant to notice, of Yorkshire saints" is also noteworthy (p. 204), but the high position held by Helena as a Yorkshire saint, because her son had spent much time in York, and was even said to have been born there, will come as a surprise to students of early Christian monuments whose minds are occupied with the porphyry sarcophagus of the Vatican which bears her portrait, rather than with the antiquities of their own country.

The illustrations, drawn from all sources, and in many cases made specially for the work, are of extreme interest and importance, and almost equally good are the quotations from and references to original sources. The "Golden Legend" plays a large part among these; so for the more historical saints do Ælfric's "Homilies"; the martyrdom of St. Thomas à Becket is given in the words of Caxton, and for such subjects as consecration services we have the best contemporary accounts available.

One or two suggestions and corrections may be offered in conclusion. There are admirable examples of the Instruments of the Passion on the exquisite woodwork of Mawgan in the Vale of Llanherne which deserve mention at least, and on the portal of St. Trophime at Arles is a remarkable relief representing souls in the lap of Abraham and Isaac which has more significance in the history of art than the example quoted on p. 275. The section on the nimbus should be altered in a second edition to include its use in Roman art, mention of which is altogether omitted, yet it was its use round the full-face presentments of later imperial figures that provided Christian art with the scheme of the *Maestas*, or Christ in Glory, and no reflection from Greece or from the East. Again, the statement on p. 254 that "so sacred was the vine to the early Christians that its presence alone was sufficient to symbolise the Christian faith" is simply wrong. The vine, on the contrary, and scenes of vintaging, had been used in Roman art for over 200 years before the official introduction of Christianity to symbolise the joys of the after-life; it is habitually used on the sarcophagi and funeral monuments of the second and third centuries, one of the most impressive examples being the great mausoleum of the Secundinii at Igel near Treves. Thus the vine on the tomb of Constantia at Rome quoted by Mr. Bond,



The Crown Inn, Wychbold, near Droitwich.
Mr. A. T. Butler, F.R.I.B.A., Architect.

like that on the sarcophagus of the Empress Helena in the Vatican, is simply a continuation of the ordinary Pagan custom of the symbolic use of the vine in connection with death and the after-life, charged with new meaning and sanctity by Christ's use of the parable of the vine to typify himself and his disciples.

The heavy loaded paper on which the book is printed, if a necessity, is a sad one, and greatly detracts from the portability of an admirable work, which the student would desire to have with him whenever he visits an ancient church or cathedral; as it is, it is as a book of reference that it will be used for many years to come, and no future publication is likely to invalidate its claims as one of the most original and scholarly publications of the Oxford University Press.

CAPTURING ENEMY PATENTS.

THE following list of British patents, which have been granted in favour of residents of Germany, Austria, or Hungary, is furnished in view of the new Patents Acts, which empower the Board of Trade to confer upon British subjects the right to manufacture under enemy patents, and is specially compiled for the *Builder* by Mr. Lewis Wm. Goold, chartered patent agent, 5, Corporation-street, Birmingham. It is desirable in the first instance to obtain the latest particulars upon the Patents Register. If any patent listed has been assigned to a non-enemy proprietor, the law does not apply:—

13,875 of 1911.—Attaching door-knobs: F. Haizmann, Germany.

19,168 of 1911.—Fanlight operating apparatus. Relates to combined opening, closing, and fastening apparatus for fanlights: P. Gunther and H. Jacobi, Berlin.

19,874 of 1911.—Valves for brewery sinks, etc.: S. Bonacina, Germany. Dated March 20, 1911.

20,241 of 1911.—Radiators. The surface temperature of radiators is prevented from exceeding 70 deg. C. by employing as the heating fluid the vapour of a chlorine carbon compound or like liquid boiling at about 70 deg. C. at normal pressure. The radiator is worked at ordinary pressure, or only slightly above or below it: H. Frank, Germany. Dated December 6, 1910.

20,447 of 1911.—Plastering, etc. To facilitate plastering or casting walls, ceilings, etc., *in situ*, rolls of flexible sheet-iron are used as temporary supports. The free end of each roll is secured to the floor or wall by an angle-iron, the sheet-iron being unrolled as the plaster is applied: H. Heydenreich, Germany.

20,679 of 1911.—Making artificial slates. Artificial slates, etc., are made from a fibrous material, such as asbestos and cement, delivered through a pipe to the opening between gradually approaching endless bands of felt or porous woven material, by which the pulp mass is drained and formed: E. Prosig, Austria

20,814 of 1911.—Door-operating appliances: M. Hynek, Saxony.

21,150 of 1911.—Chimneys and flues. In systems of flues wherein the flue of each of a number of stories opens out from a main flue, hand-operated valves are provided in each flue beneath the stove opening, but within the story with which the flue connects, so forming a soot pocket and a means of shutting off the flue in complete control of the occupant. In cleaning such flues brushes are let down from the top and the soot transfered to the main flue by opening the valves, whence it is removed by a door at the bottom: J. Zerkowitz, Vienna.

21,327 of 1911.—Artificial wood. Artificial wood is manufactured by preparing reed plants, such as papyrus and "Umsoof," from the Soudan, Congo, and other countries, in the manner prescribed in specification, and moulding the product in a press adapted to produce continuous bars or boards by means of a piston having in its face numerous shallow grooves: P. Hoering, Berlin.

21,410 of 1911.—"Engaged" and like indicators: E. F. von Berchem, Germany.

A CORRECTION.

In our last week's issue the two gates on page 5 of our Supplement are described as the work of Mr. E. L. Lutyens. This, we are informed, is erroneous. The gate at the top was by Mr. E. L. Lutyens, and was for a house at Temple Dinsley, but the lower one was designed by Mr. W. J. Parker, and was for a house at Fernhill, Windsor.

LAW REPORTS.

Proceedings taken by the Wrong Party.

AN interesting point was raised in a summons heard before Mr. Symmons at the Greenwich Police Court recently. Mr. J. Hughes, of 16, Duncrieve-road, Hither Green, Lewisham, was summoned by Mr. Ernest A. Young, District Surveyor for Catford, for contravening the London Building Act by erecting wooden buildings at 13 and 15, Muirkirk-road, Catford, without the consent of the London County Council. A notice from Mr. Young to remove the buildings a distance of 5 ft. from any other building had not been complied with. Mr. Pasmore appeared for the District Surveyor, and Mr. Beachcroft was counsel for the defence. The erection of buildings was admitted, as also the fact that the notice had not been complied with. The buildings in question were coal-sheds, and Mr. Symmons suggested that when the plans for the building itself were submitted, the coalshed should also be shown, so that the plans might be passed as a whole. Mr. Beachcroft said his client had not hitherto adopted this course, but he would be quite willing to do so in future. Counsel argued that the duties formerly possessed by the County Council in this matter had been transferred to the Borough Councils, and argued that the only persons who could take proceedings were the Lewisham Borough Council. He instanced the case of Jubilee stands erected in the Strand.

Mr. Symmons, having heard exhaustive arguments, said it was clear that sect. 84 and not sect. 82 applied in this case, the building being a wooden and not an iron one. London had a number of local authorities, which might become conflicting in any other country but this. But in England we felt that the good administration of laws was more important than the laws themselves, so that what might cause chaos in any other country did not so affect us. The London County Council, the Borough Councils, Boards of Guardians, and, if he might say so, the Metropolitan Police magistrates, worked together in harmony. If the proceedings in this case had been taken by the Lewisham Borough Council the defendant might have been hit, but, in the form in which the summons was taken, it must be

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'Grams: "Antiflame, London." 26, Hart Street, London, W.C.

dismissed. Mr. Beachcroft asked for costs, and Mr. Pasmore opposed, urging that Mr. Young was only carrying out a public duty. Mr. Symmons said he would grant only small costs—two guineas.

Birmingham Architect's Claim: Plans for a Picture-House.

At Birmingham County Court recently his Honour Judge Amphlett, K.C., and a jury heard an action in which Mr. Thomas Silver, an architect and a member of the City Council, of Soho-hill, Handsworth, sought to recover the sum of £100 from Mr. Alfred Smallwood manufacturer, of Holyhead-road, Handsworth for work done and services rendered.

Mr. Cave (instructed by Messrs. Freeland & Warder) was counsel for the plaintiff, and Mr. Maddocks (instructed by Messrs. Forsyth, Bettinson, & Co.) for the defendant.

Plaintiff's case was that he was instructed by the defendant to prepare plans and specifications for the erection of a picture-house in Holyhead-road, Handsworth. At an interview between the parties the plaintiff submitted plans he had prepared in respect of other picture-houses, and of these the defendant expressed his approval. The defendant agreed to pay plaintiff a fee of 5 per cent. on the full cost of the proposed building if the work was carried out. The estimated cost of the building was £5,000, and it was proposed to let a portion of the building to Lloyds Bank. Subsequently, the defendant informed the plaintiff that he had not definitely decided to proceed with the erection of the building, and the plaintiff agreed to draw up sketch plans for £10. When plaintiff's plans were before the licensing justices the site of the proposed building was approved, subject to slight amendments in the plans, and later, the plans were signed by the Chairman of the licensing justices. In the negotiations that afterwards took place between the parties, the defendant informed the plaintiff that the bank company were not satisfied with the plans, and the defendant wished to break off further negotiations for carrying out the work. The plaintiff's original claim against the defendant amounted to £150, his charge for the preparation of the plans and specifications being at the rate of 2½ per cent. on the cost of the building. In order to bring the case within the jurisdiction of the County Court, he had reduced his claim to £100.

Mr. Henry Farmer and Mr. Alfred Harper, architects, both gave evidence that the plans prepared by the plaintiff were quite in order.

Defendant, giving evidence, said that in 1913 he was in touch with Lloyds Bank in reference to the erection of a bank on a site belonging to him at the corner of Holyhead-road. Mr. Silver approached him on the subject, and a suggestion was made that a picture-house should be incorporated in the building scheme. Plaintiff agreed to get out plans, and terms were arranged at 5 per cent. on the cost of the buildings if the work was proceeded with, and £10 10s. for the plans if the work was not proceeded with. Defendant said it was purely a speculation with him, and asked how much he would be responsible for if the plans prepared were not proceeded with, and plaintiff said: "In that case ten guineas is the whole sum you will be responsible for." Subsequently it was decided not to proceed with the scheme, and until he received a letter from plaintiff, on July 20, it had never been intimated that he owed plaintiff more than ten guineas. No suggestion had ever been made that he would have to pay 2½ per cent. for the completed plans, and that the £10 10s. related only to sketch plans. Witness never gave instructions for specifications to be prepared. Plans prepared subsequently by another architect were approved by the bank, and these were being proceeded with.

After a lengthy hearing the jury returned a verdict for the plaintiff for £60. Judgment was entered accordingly.

METROPOLITAN ASYLUMS BOARD.

At an emergency meeting of the above Board on Saturday, the following amongst other matters were dealt with:—

Chapel.—The Local Government Board wrote giving approval to the plan of a chapel and mortuary shed at Caterham Asylum at an estimated cost of £360.

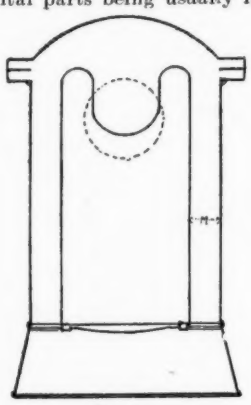
Hyde Stile Sanatorium.—It was agreed that the working drawings prepared by Mr. E. T. Hall, architect, showing the works involved in the erection of a sanatorium at Hyde Stile, near Godalming, be approved and forwarded to the Local Government Board. The plans provide accommodation for 232 women in eight single-story pavilions, each containing twenty-four beds, with duty-room, self-contained blocks for lavatory, bathrooms, water-closets, etc., with an open dayroom at the end of each large pavilion, together with a two-storied block, containing forty beds, with a dayroom in the centre, on the south side for convalescent patients, the wards of this block being provided with verandahs wide enough to permit the patients sitting out.

North-Western Hospital.—The Works Committee reported that, as they were of opinion that the preparation of plans for, and the works involved in, the erection of the nurses' home at the North-Western Hospital should be placed in the hands of an outside architect, the President of the Royal Institute of British Architects at their invitation submitted to them the names of eight architects from amongst whom a selection might be made for appointment by the Board, and as the result of their consideration of the claims of the several architects whose names the President submitted to them, they recommended that Mr. E. Vincent Harris, F.R.I.B.A., of 8, New-square, Lincoln's Inn, W.C., be appointed to prepare the necessary plans and specifications, and to supervise the execution of the requisite works in conection with the erecuon of the new home for nurses at the North-Western Hospital; and that he be paid a commission at the rate of 5 per cent. on the total cost of the works to be carried out under his supervision. This was agreed to.

River Hospital.—It was agreed, subject to the consent of the Local Government Board, that eight additional staff cottages be erected on the River Hospitals Estate at an estimated cost of £3,425.

TRADE CATALOGUES.

THE "Baseco" domestic hot-water boiler, manufactured by the B.S. Engineering Company, 4, Lloyds-avenue, London, E.C., is described in a leaflet which has been sent to us. The boiler is designed with a domed top, which, when removed, exposes the whole of the interior so that every particle of incrustation can be removed. Hand holes and plugs do not admit of the total and thorough removal of incrustation, the vital parts being usually inaccessible.



SECTION.

In the "Baseco" boiler the inner circular casing of the boiler has a deep pocket formed at the top, which dips down to the fire, materially increasing the heating surface without increasing the diameter of the boiler, thus utilising the heat value of the fuel. It will burn coke, cinders, or scullery refuse. We give a diagram of the section, and the boiler is made in several sizes, the chief of which are 14 in., 16 in., and 20 in. diameter.

Messrs. George Wright, Ltd., 155, Queen Victoria-street and Rotherham, send us their new catalogue of "Hobgrates," which is very comprehensive and includes some excellent patterns, among which we may mention 1,261 E and 1,355 E, suitable for bedrooms and halls, and the Longworth series, which are made 23 in. high, each of them forming a complete grate with firebrick back and ashpit cheeks. The Rumford grate, 1,353 E, is based on an old Empire model, and always looks well. A good selection of hob interiors are given, which are suitable for narrow openings with tile or iron panels on flat or on splay; the width of these can be increased and the height increased or decreased as required. A very large selection of antique grates, Adam designs, as well as modern variations and cast-iron panels, are included in this useful catalogue.

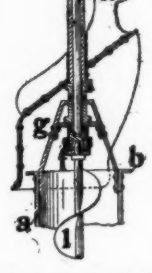
Messrs. Jones & Attwood, Ltd., of Stourbridge, are the makers of the "John Bull" sectional boilers, particulars of which we have received. The boilers are made in small sections and can therefore be got into small and awkwardly shaped stokeholes, and the cast-iron of which they are made is less liable to corrosion than wrought-iron, while the corrugated and tubular form of the boiler presents a much larger surface for direct contact with the fire than can be obtained in any other way, thus adding to its efficiency. If the boiler requires extension, all that is necessary is to add new sections instead of renewing the whole boiler, and should the boiler be split by frost, it will usually be found that one section only is affected. The boilers are built up of a varying number of sections, which are interchangeable, and the units are connected together with standardised connections, and each boiler is guaranteed for two years.

Messrs. Parker, Winder, & Achurch, Ltd., of Broad-street, Birmingham, have issued an interesting little booklet dealing with the problem of smoky chimneys, in which they point out that there are three causes of smoky chimneys, but two of them are so very seldom experienced that it may be considered that when the smoke from a fireplace comes into a room instead of passing up the chimney, it is due to down-blow, the cause of which is invariably the insufficient height of the chimney. Messrs. Parker, Winder, & Achurch, Ltd., claim to have found an effective remedy for chimneys suffering with down-blow, by the use of their "Eagle" chimney-pot. The makers guarantee that this will effect a cure, and they will take the chimney-pot back and allow full price for it should it fail, if returned within one month from date supplied.

SELECTED PATENTS.

16,274 of 1913.—Matthaus Lutz and Fanny Lutz (*née* Mack): Chimneytops.

This relates to a chimneytop in which the cylindrical body *a* is provided with a flange *b* at its upper edge, about which revolves a wind-directed cowl *g*, embracing about two-

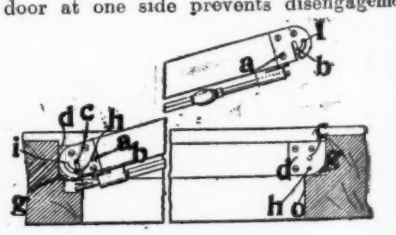


16,274 of 1913.

thirds of the flange. The cowl is provided with two spaced wind-vanes *h*, and its pivot is supported on a ball-bearing running in an oil-bath. The upper end of the shaft of a ventilating-fan *l* may be supported by a ball-bearing formed in the same bearing *l* that takes the cowl spindle.

16,555 of 1913.—Edward George Tewson: Doors, windows.

This relates to doors and casements, which may be opened about either stile by means of hinges comprising pins *c* carried by plates *d*, fixed at each side of the door or like frame, and plates *a* with slots *b* fitted to both stiles of the door, the edges of the door stiles and posts being so shaped that a slight opening of the door at one side prevents disengagement



16,555 of 1913.

of the pins *c* and slots *b* at the other side. The edges of the stiles *e* and the corresponding edge of the plates *a* are semicircular in plan, and a rim *g* is formed on the frame plates *d* to engage the plates *a*, and pins *h* on the plates *d* may be provided to engage curved slots *i* in the plates *a*. Instead of arranging the hinge members at the top and bottom of the door as shown, they may be mounted in recesses in the door stiles, between the top and bottom thereof.

MESSRS. J. CHESSUM & SONS.

The partnership heretofore subsisting between Mr. J. W. Chessum and Mr. R. B. Chessum, builders, decorators, etc., carrying on business at 7A, South-place, London, E.C., has been dissolved by mutual consent as on and from September 30, 1914. All debts due to and owing by the late firm will be received and paid by Mr. Roland Bruce Chessum. The business of the late firm will be transferred to a company to be called Messrs. J. Chessum & Sons, Ltd., of which company Mr. Roland Bruce Chessum will be governing director.

List of Competitions, Contracts, etc.

For some contracts still open, but not included in this List, see previous issues. **Those with an asterisk (*) are advertised in this number:** Competitions, iv.; Contracts, iv., vi., viii., x.; Public Appointments, xvi.; Auction Sales, xviii. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

*** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to assure accuracy, we cannot be responsible for errors that *may* occur.

Competitions.

JANUARY 23. — **Doncaster.** — LAYING-OUT 20 ACRES.—The Doncaster T.C. invite architects to submit designs for laying-out site and erection of 102 workmen's dwellings. See advertisement in issue of December 18.

JANUARY 31. — **Macclesfield.** — HOUSING SCHEME. — The Lands and Town Development Committee invite competitive plans, etc., for a housing scheme from local architects and builders.

FEBRUARY 8.—**Liverpool.**—WORKMEN'S DWELLINGS.—The Liverpool Corporation invite designs for workmen's dwellings for about 500 persons. Premiums, £100, £50, and £25 respectively. See advertisement in issue of November 13.

* MARCH 31.—**Bradford.**—The Bradford Corporation invite designs for replanning of streets.

NO DATE. — **Coventry.** — SCHOOL.—The City Council invite competitive sketch plans for the erection of a new public elementary school at Folly-lane, Coventry (Coventry architects only). Particulars at the Education Office, 44, Bayley-lane, Coventry.

Contracts.

BUILDING AND PAINTING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

JANUARY 18. — **Altrincham.** — DEMOLITION. — Demolition of certain properties in the area known as Police-street, viz.:—(1) For pulling down the properties in accordance with the specifications; (2) for the materials on the sites after demolition. Specifications of the Surveyor, Town Hall, Altrincham.

JANUARY 18.—**Bristol.**—PLASTERING, ETC.—For plastering, painting, etc., ward 162 and staircase, bathrooms, etc., at the Eastville Institution for the Bristol Guardians. Specification of Mr. J. J. Simpson, Clerk, St. Peter's Hospital, Bristol.

JANUARY 18. — **Dewsbury.** — EXTENSION. — Various works required in the extension of weaving shed at Spinkwell Mills, Dewsbury. Quantities of Messrs. Kirk, Sons, & Ridgway, architects, Market-place, Dewsbury.

JANUARY 18. — **Dewsbury.** — MASON WORK.—For mason work required in altering the East-borough Working Men's Club, Dewsbury. Specifications from the Steward or from G. Asquith, Secretary.

JANUARY 18.—**Dingle.**—SCHOOL.—Erection of national school buildings at St. Erc's, near Dingle, Co. Kerry. Specification at Dingle Royal Irish Constabulary Barracks.

JANUARY 18. — **Lancaster.** — PAINTING. — For painting of the Corporation Baths, Cable-street. Quantities of the Borough Surveyor, Town Hall.

JANUARY 18.—**Pebworth.**—HOUSE.—Erection of dwelling-house at Pebworth, Gloucestershire. Applications to Messrs. Knight & Hebery, architects, 5, Rother-street, Stratford-upon-Avon.

JANUARY 18. — **Walney.**—BANK.—Erection of new premises on the Promenade for the Bank of Liverpool, Ltd. Quantities of Mr. J. F. Curwen, architect, 24, Highgate, Kendal.

JANUARY 20.—**Abertridwr.**—SHOPS, ETC.—Erection of two shops and alterations to an existing shop at Abertridwr for Mr. Frank Hawkins, Pontypridd. Quantities of Messrs. A. O. Evans, Williams, & Evans, architects, Pontypridd. Deposit, £1 1s.

JANUARY 20.—**Barrow-in-Furness.**—PAINTING, ETC.—For external cleaning, painting, etc., at Devonshire-road Hospital for the Corporation. Quantities of the Borough Engineer, Town Hall.

JANUARY 20. — **Garforth.** — ADDITIONS.—Additions to the Educational Buildings at the Manor Farm, Garforth, for the Yorkshire Council for Agricultural Education. Quantities of Mr. B. B. Stamford, Architect, County Hall, Beverley. Deposit, 10s. 6d.

JANUARY 20. — **Manchester.** — WASH-HOUSE.—Erection of a wash-house at Leaf-street Baths for the Manchester Corporation. Specification of the City Architect, Town Hall. Deposit, £1 1s.

JANUARY 22.—**Barrow-in-Furness.**—PAINTING.—Cleaning, painting, etc., at 47 to 53, Strand, and shop in Schneider-square for the Corporation. Quantities of the Borough Engineer, Town Hall.

JANUARY 22.—**Slaithwaite.**—ALTERATIONS.—For fitting up Slaithwaite Mechanics' Institute as Special Subjects Centre (builder, joiner, plumber, and painter) for the West Riding E.C. Quantities of the Education Architect, County Hall, Wakefield. Deposit, £1.

JANUARY 23.—**Bury.**—PAINTING.—For painting to be done at the Union Workhouse. Particulars of Mr. A. Bailey, Workhouse Master.

JANUARY 23.—**Bury.**—RETAINING WALL.—Construction of an extension to reinforced concrete retaining wall at the Electricity Generating Station, Chamber Hall, Bury. Quantities of Mr. J. Ainsworth Settle, Borough Engineer, Bank-street, Bury. Deposit, £2.

JANUARY 23. — **Rugby.** — COTTAGES, ETC.—(1) Erection of two pairs of cottages at Marton; (2) repairs to the farmhouse at Marton, for the Warwickshire E.C. Specifications at the County Education Office, Northgate-street, Warwick.

JANUARY 25.—**Angmering.**—COTTAGES.—Erection of four cottages at Angmering for the East Preston R.D.C. Specification of Mr. A. Shelley, Clerk, Town Offices, Littlehampton.

JANUARY 26.—**Aston by-Stone.**—FARM INSTITUTE.—Erection of a farm institute at Aston by-Stone, comprising model farm, dairy, hostel, principal's house, and cottages, for the Staffordshire E.C. Quantities of Mr. Graham Balfour, Director of Education, Stafford. Deposit, £2 2s.

JANUARY 26. — **Ludlow.** — COTTAGES.—Erection of twenty-two cottages at Holdgate Fee, Ludlow, for the Corporation. Specifications of Mr. J. Butters, architect, Ludlow. Deposit, £2 2s.

* JANUARY 26.—**Poplar.**—ENGINE-HOUSE, ETC.—The L.C.C. invite tenders for erection of an engine-house and foundations for engines, pumps, etc.

JANUARY 27. — **Middlesborough.**—PAINTING.—For external painting required at the Town Hall and Municipal Buildings. Specification of Mr. S. E. Burgess, Borough Engineer, Municipal Buildings, Middlesborough.

JANUARY 27.—**Rochdale.**—REPAIR SHOPS.—Erection of repair shops, in Mellor-street, Rochdale, in the following trades:—(*a*) Reinforced concrete foundations and car platform; (*b*) steel work (steel frame); (*c*) builders' work. Particulars from Mr. P. W. Hathaway, A.R.I.B.A., Town Hall, Rochdale.

JANUARY 27. — **Towcester.** — REFRESHMENT ROOMS.—Erection of refreshment rooms at Towcester for the Stratford-upon-Avon and Midland Junction Railway Company. Quantities of Messrs. Knight & Hebery, architects, 5, Rother-street, Stratford-upon-Avon. Deposit, 10s. 6d.

JANUARY 28.—**Seaton Delaval.**—POLICE-STATION.—Erection of a police-station at Seaton Delaval for the Northumberland Standing Joint Committee. Quantities of Mr. J. A. Bean, County Surveyor, Moothall, Newcastle-on-Tyne. Deposit, £2.

JANUARY 28.—**Wigan.**—HOSPITAL BUILDINGS.—Erection of new out-patients' department at the Wigan Infirmary for the Board of Management. Specifications, etc., of Messrs. W. C. Ralph & Son, architects, Leader's-buildings, King-street, Wigan. Deposit, £3 3s.

JANUARY 30.—**Upholland.**—DWELLINGS.—Erection of eight workmen's dwellings for the Upholland U.D.C. Specifications of Mr. Archie Hunt, Surveyor, Council Offices, Upholland. Deposit, £1 1s.

FEBRUARY 3.—**Knutsford.**—OPERATING THEATRE, ETC.—Erection of proposed small operating theatre and other small alterations to the Knutsford Institution at Knutsford, Cheshire, for the Bucklow B.G. Quantities of the architect to the Board, Mr. Herbert H. Brown, F.R.I.B.A., 20, Brazennose-street, Manchester, up to January 19. Deposit, £1 1s.

* FEBRUARY 4.—**Cardiff.**—ALTERATIONS TO POST-OFFICE.—The Commissioners of H.M. Works, etc., invite tenders for alterations to Cardiff Head Post-office.

FEBRUARY 4.—**Portsmouth.**—INFECTIOUS HOSPITAL EXTENSION.—For extensions to the Infectious Diseases Hospital at Milton for the Portsmouth Corporation. Quantities of Mr. G. Hammond Etherton, Town Clerk, Portsmouth. Deposit, £3 3s.

FEBRUARY 13.—**Caherciveen, Co. Kerry.**—Rebuilding of Caherciveen Bridge in ferro-concrete on the Delap and Waller system for the Kerry C.C. Specifications at the County Surveyor's Office, Tralee, or at Messrs. Delap & Waller, 115, Grafton-street, Dublin. Forms of tender of Mr. M. J. Quinlan, County Council-chambers, Tralee.

NO DATE.—**Ferryhill.**—HOUSE, ETC.—Erection of house, shop, stable, etc., at Ferryhill Village for Mr. J. H. Forster. Quantities of Mr. H. Moore, architect, 39, Newgate-street, Bishop Auckland. Deposit, £1 1s.

FURNITURE, MATERIALS, etc.

JANUARY 18.—**Burma.**—RED LEAD, ETC.—Supply to the Burma Railways Company, Ltd., 20 tons red lead and 35 tons white lead. Specification of Mr. W. Home, managing director, No. 199, Gresham House, Old Broad-street, London, E.C. Charge, £1.

JANUARY 21.—**Plymouth.**—MATERIALS.—Supply to the Plymouth Corporation Electricity and Street Lighting Departments of arc lamp carbons, electricity meters, A.C., transformers, cables (paper insuld.), lubricating oils, engine waste, etc., gas mantles. Specification of Mr. E. G. Okell, Borough Electrical Engineer, Prince Rock, Plymouth. Deposit, 10s.

JANUARY 22.—**Acton.**—MATERIALS.—Supply of materials to the U.D.C., including cement, road materials, paving material, etc. Forms of tender at the Surveyor's Department, Council Offices, Acton, W.

JANUARY 22.—**Cheriton.**—GRANITE.—Supply to the Cheriton U.D.C., Kent, of 500 or 1,000 tons of Welsh, Leicester, or other approved granite, hand broken to a gauge of 3 in. Form of tender of Mr. William R. Coveney, Acting Surveyor, Public Offices, Cheriton.

JANUARY 23. — **Sheffield.**—MATERIALS.—Supply to the Highway and Sewerage Committee of cement, earthenware pipes, blocks, traps, etc., concrete flags, granite setts, kerb, ringsmall, gravel, and chips, limestone (lump and chippings), slag shingle, pitch, tar, and creosote oil. Forms of tender of Mr. W. J. Hadfield, City Surveyor, Town Hall, Sheffield. Deposit, 10s.

* JANUARY 23. — **Stepney.** — SUPPLY OF MATERIALS, ETC.—The Metropolitan Board of Stepney invite tenders for supply of various materials and execution of certain works for a period of one year.

* JANUARY 25.—**London.**—PAINTING, ETC.—The Shoreditch B.C. invite tenders for painting and decorating work at the Town Hall.

JANUARY 25. — **Sleaford.** — ROAD MATERIAL.—Supply to the Sleaford R.D.C. of granite and slag for the whole of the roads in the district, and gravel for paths. Specifications of Mr. Ernest H. Godson, Clerk, 74, Southgate, Sleaford.

* JANUARY 26. — **Willesden.**—MATERIALS.—The Willesden D.C. invite tenders for supply of various materials.

JANUARY 27.—**Chiswick.**—MATERIALS.—Supply to the U.D.C. for six months of lime and cement, flints, hoggin, granite, paving materials, pipes, etc. Forms of tender of Mr. E. Willis, Surveyor, Town Hall, Chiswick.

* JANUARY 28.—**Greenwich.**—HEATING AND HOT WATER.—The Greenwich Guardians invite tenders for heating and hot water supply installation.

FEBRUARY 1.—**Ossett.**—MATERIALS.—Supply to the Corporation of materials, stores, workmen's tools, etc., required in the Highways, Gas, Lighting, Water, Sanitary, and Educational Departments for one year. Forms of tender at the Borough Surveyor's Office.

FEBRUARY 1.—**Wells.**—ROAD MATERIAL.—Supply to the Somerset C.C. of broken granite or basalt required for the main roads in the Long Ashton Rural District. Forms of tender of Mr. Edward Stead, County Surveyor, Wells, Somerset.

* FEBRUARY 2.—**Various Towns.**—MATERIALS.—The Prison Commissioners invite tenders for supply of building materials.

FEBRUARY 6.—**Wallasey.**—MATERIALS.—Supply to the Corporation for twelve months of road material, pitch, refined tar, and creosote oil, Portland cement, curbs, channels, etc., timber, stoneware street and passage gulleys, drain and sewer pipes, granite concrete flags, paints, ironmongery, etc. Forms of tender of Mr. W. H. Travers, Borough Engineer, 18, Falkland-road, Wallasey.

FEBRUARY 8.—**Darlington.**—MATERIALS.—Supply to the Darlington R.D.C. of cement, sanitary pipes, field pipes, bricks, water grates, fencing, road materials, etc. Forms of tender of Mr. John Robinson, Highway Surveyor, Crown-street, Darlington.

FEBRUARY 8.—**Salisbury.**—MATERIALS.—Supply to the Corporation for one year of materials, including cement, iron castings, oils, tar, etc. Forms of tender of the Borough Engineer, Municipal Buildings.

FEBRUARY 14. — **Madrid.** — MOTOR ROAD SWEEPERS.—The "Gaceta de Madrid" announces that tenders are invited by the Madrid Corporation for two motor road sweepers, to cost approximately £780 each. Tenders with detailed description to the Registro General, El Ayuntamiento de Madrid, Madrid.

NO DATE.—**Harold Wood.**—FENCING.—Supply to the Committee of Visitors of Brentwood Asylum, Essex, of 330 ft. oak fencing, 4-ft. 9-in. high, and 840 ft. chestnut fencing, 4-ft. high, at the branch asylum at Harold Court, Harold Wood. Form of tender of the Clerk of the Asylum.

[Those with an asterisk (*) are advertised in this issue.]

ENGINEERING, IRON, AND STEEL.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

JANUARY 18.—**Oldham.**—ELECTRIC LIGHTING.—For electric lighting of new Council school at Higginshaw for the Oldham E.C. Specification from the architects, Messrs. Winder & Taylor, Union-street, Oldham.

JANUARY 19.—**Wallasey.**—TRAMWAY POINTS, ETC.—Supply to the Wallasey Corporation of Manganese steel tramway points and crossings. Particulars of Mr. W. H. Travers, 18, Falkland-road, Wallasey.

JANUARY 19.—**Wallasey.**—TRAM RAILS.—Supply to the Corporation of 40 tons of No. 4 British standard steel tram rails. Particulars of Mr. W. H. Travers, Borough Engineer and Surveyor, 18, Falkland-road, Wallasey.

JANUARY 20.—**Manchester.**—GRIDS, ETC.—Supply to the Corporation of ventilating grids and other castings for twelve months. Forms of tender of Mr. H. Prescott, Manager of the Drainage Department.

JANUARY 21.—**Rothwell.**—PIPES.—For about 830 yds. of 4-in. S. and S. cast-iron water main pipes and specials for the Rothwell U.D.C. Particulars of Mr. J. Southwart, Surveyor, Rothwell, Leeds.

JANUARY 25.—**Glasgow.**—STEELWORK.—Renewal of the superstructures of overbridges at Langside-road, Glasgow, and Lindsay-road, Leith, and an underbridge at Glasgow Iron and Steel Works, Wishaw, for the Caledonian Railway Company. Quantities, etc., of the Engineer, Buchanan-street Station, Glasgow. Deposit, £2 2s.

JANUARY 26.—**India.**—BRIDGEWORK, ETC.—Supply to the South Indian Railway Company of (1) bridgework, five spans of 100 ft., etc.; (2) locomotive boilers for "A" and "B" class engines (metre gauge) and "Q" class engines (2-ft. 6-in. gauge). Specifications of Mr. V. E. De Broe, 91, York-street, Westminster, S.W. Charge, £1 each specification.

JANUARY 26.—**London.**—STEEL BAR.—Supply to the L.C.C. of 620 tons special section rolled steel bar for magnetic brakes shoes. Particulars from the Chief Officer, London County Council Tramways, 62, Finsbury-pavement, E.C.

JANUARY 26.—**London.**—TYRES.—Supply to the L.C.C. of 10,000 driving and pony wheel tramcar tyres, or, alternately, of 5,000 driving and pony wheel tyres. Particulars from the Chief Officer, London County Council Tramways, 62, Finsbury-pavement, E.C.

JANUARY 30.—**Manchester.**—PENSTOCKS.—Supply of electrically operated rectangular channel penstocks for the Manchester Sewage Works Extensions, Davyhulme. Specification, etc., from the Secretary of the Rivers Department, Town Hall, Manchester. Deposit, £3 3s.

FEBRUARY 10.—**Spain.**—CRANES.—For installation of four electric cranes for the Junta de Obras del Puerto de Valencia, Spain. Copy of "Gaceta de Spain" at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

FEBRUARY 10.—**Spain.**—ELECTRIC LIGHTING.—The "Gaceta de Madrid" states that tenders are invited by the Municipality of Teruel for the installation of an electric lighting system. The journal can be consulted at the Commercial Intelligence Branch of the Boad of Trade, 73, Basinghall-street, E.C.

FEBRUARY 28.—**New Zealand.**—TRANSFORMERS.—For eighteen step-down transformers for use in connection with the Lake Coleridge power scheme. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

JUNE 1.—**Siam.**—RAILWAY MATERIAL.—Tenders are invited by the Siamese Royal Railway Department for supply of forty bogies with axles and wheels and twenty iron frames complete for twenty vehicles on bogies, together with spare parts. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

NO DATE.—**Westminster.**—DOGSPIKES.—Supply to the Jodhpur Bikaner Railway of 58 tons of dogspikes. Specifications from Messrs. Rendel, Palmer, & Tritton, 73, Dartmouth-street, Westminster, S.W. Charge, 10s. 6d.

ROAD, SANITARY, AND WATER WORKS.

JANUARY 18.—**South Stoneham.**—CULVERT.—For reconstruction of Snakemoor Culvert, Botley, for the South Stoneham and Droxford R.D.C. Specifications from Mr. F. Heather, Surveyor, "Chevin Side," Old Portswood, Southampton. Deposit, £1 1s.

JANUARY 18.—**Wandsworth.**—STREET WORKS.—For making-up and paving of Gamlen-road, Putney. Specification of the Borough Engineer, Mr. P. Dodd, No. 56, East-hill, Wandsworth, S.W. Deposit, £5 5s.

JANUARY 19.—**Rhondda.**—VARIOUS.—(1) Supply of about 160 yds. of unclimbable fencing at destructor site, Dinas; (2) Supply of about 700 yds. of fencing for Recreation Ground, Treherbert; (3) improvement of Gilfach-road, Tonypandy, for the Rhondda U.D.C. Specifications at the Council Offices, Pentre. Deposit, £1 1s.

JANUARY 20.—**Manchester.**—PLUMBERS' WORK, ETC.—For execution of general contractors' and plumbers' work required in connection with the drainage of houses and other premises for twelve months. Forms of tender of Mr. H. Prescott, Manager of the Drainage Department, Town Hall, Manchester. Deposit, £1 1s. each section (eight).

JANUARY 21.—**Salford.**—GAS MAINS.—Supply and laying of 12-in., 6-in., and 3-in. wrought-iron or steel high-pressure gas mains, with welded joints. Particulars from Mr. William W. Woodward, Engineer, Gas Offices, Bloom-street, Salford.

JANUARY 21.—**Thakeham.**—WATER SUPPLY.—Laying cast-iron pipes, construction of reservoirs, and erection of engine-house at Storrington for the Thakeham R.D.C. Quantities of the Engineers, Major Tulloch & Haworth, 28, Victoria-street, Westminster, S.W. Deposit, £2 2s.

JANUARY 23.—**Cardiganshire.**—ROADS.—For strengthening and surfacing the Cardigan to Cenarth main road from Manorafon to Cenarth with Welsh granite, and tar spraying. Specification of Mr. D. Davies, County Surveyor, Felinfach, R.S.O.

JANUARY 25.—**Birmingham.**—STREET WORKS.—Formation of St. Margaret's-road (between Morris-road and Bromford-lane) for the Corporation. Quantities of Mr. Henry E. Stilgoe, City Engineer, The Council House, Birmingham Deposit, £2.

JANUARY 25.—**Disley.**—SEWERS.—Provision, laying, and jointing of about 2,300 lineal yds. of 9-in. stoneware and cast-iron sewers, etc., for the Disley R.D.C., Cheshire. Quantities of the Engineer, Mr. C. S. Righton, 18, Market-street, Marple. Deposit, £2 2s

* JANUARY 25.—**Hendon.**—ROAD-MAKING.—The Hendon U.D.C. invite tenders for road widening.

JANUARY 25.—**Rowley Regis.**—SEWER.—Relaying sewer and storm-water drain, raising roadway, relaying kerbing, etc., in High-street, Cradley Heath, for the Rowley Regis U.D.C. Specification of Mr. Daniel Wright, Clerk, Council House, Old Hill, Staffordshire.

JANUARY 26.—**Barking.**—ROADS.—(*a*) Construction of about 580 lineal yds. of 9-in. diameter glazed stoneware pipe sewer and about 640 lineal yds. of 9-in. and 12-in. diameter glazed stoneware pipe surface-water drain, etc.; (*b*) widening of the carriageway and construction of new footway, kerbing, etc., for the Barking Town U.D.C. Quantities of Mr. R. A. Lay, Acting Surveyor to the Council, Public Offices, Barking.

JANUARY 27.—**St. Albans.**—SEWAGE DISPOSAL.—Alterations and additions to the Sewage Disposal Works, near Park-street, for the St. Albans Corporation. Quantities of the Consulting Engineer, Mr. H. Howard Humphreys, 28, Victoria-street, Westminster. Deposit, £3 3s.

JANUARY 27.—**Sowerby Bridge.**—FILTRATION PLANT.—Supply and erection of filtration plant for proposed new baths for the Sowerby Bridge U.D.C. Particulars of Mr. James Eastwood, Engineer, Council Offices, Sowerby Bridge.

* JANUARY 30.—**Bushey.**—WOOD AND GRANITE PAVING.—The Hertfordshire C.C invite tenders for wood and granite sett paving.

JANUARY 30.—**Swinton.**—SEWERS.—Construction of brick sewers, concrete tube sewers, stoneware pipe sewers, manholes, and other works, for the Swinton and Pendlebury U.D.C. Quantities of Mr. Henry Entwisle, Engineer, Council Offices, Swinton, Manchester. Deposit, £3 3s.

FEBRUARY 1.—**Long Ashton.**—ROADS.—For steam rolling and scarifying on main roads in the Long Ashton Rural District for the Somerset C.C. Specifications from Mr. Edward Stead, County Surveyor, Wells, Somerset.

FEBRUARY 6.—**Morocco.**—PAVING.—Tenders invited by the Special Committee of Public Works for the paving of the Place d'Espagne at Tetuan. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

MARCH 30.—**Clutton.**—WATER SUPPLY.—The R.D.C. of Clutton offer a prize of £100 for the best and most economical scheme for providing a public water supply for the parishes of Chelwood, Chew Magna, Chew Stoke, Norton Malreward, Publow, and Stanton Drew. The scheme must include the estimated cost of the works, detailed plans, and bills of quantities. A prize of £50 will be given to the scheme adjudged to be the second best. The successful scheme, including plans and bills of quantities, will be the absolute property of the Council. Mr. J. Sumner Dury, Clerk, Temple Cloud, Bristol.

APRIL 20.—**Spain.**—WATER SYSTEM.—Tenders are invited in the "Gaceta de Madrid" by the Municipality of Teruel for the installation and working of a water system for the town. Copy of announcement at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

NO DATE.—**Morocco.**—ROADS.—(1) Construction of roadway about 571 yds. long between Laraiche and the Grand Sokko, and (2) improvement of the Ghadna-road between the Grand Sokko and Nador, about 920 yds., for the Special Committee of Public Works. Forms of tender at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

Auction Sale.

* JANUARY 27.—Messrs. Churchill & Sim will sell by auction, at the Great Hall, Winchester House, Old Broad-street, E.C., an assortment of deals, battens, boards, timbers, etc.

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"THE BUILDER" (Published Weekly) is supplied DIRECT from the Office to residents in any part of the United Kingdom at the prepaid rate of 19s. per annum, with delivery *by Friday Morning's Post* in London and its suburbs.

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[Those with an asterisk (*) are advertised in this issue.]

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PRICES CURRENT OF MATERIALS.

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.]

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.
Per 1000 Alongside, in River.	
Best Stocks	1 16 6
Picked Stocks for Facings	2 10 0
Per 1000, Delivered at Railway Depôt.	
Flettons	1 14 0
Best Fareham Red	3 12 0
Best Red Pressed Ruabon Facing	5 0 0
GLAZED BRICKS—	
Best White, Ivory, and Salt Glazed Stretchers	13 0 0
Headers	12 10 0
Quoins, Bullnose and 4½ in. Flats	16 10 0
D'ble Str'tch'rs	18 10 0
Best Blue Pressed Staffordshire	3 15 0
Do. Bullnose	4 0 0
Best Stourbridge Fire Bricks	4 0 0
Double Headers	15 10 0
One Side and two Ends	19 10 0
Two Sides and one End	20 10 0
Splays and Squints	18 0 0

Second Quality £1 10s. per 1000 less than best.

BRICKS, &c. (*Continued*).

	s. d.	
Thames and Pit Sand	7 6	per yard, delivered.
Thames Ballast	6 0	,, ,,
Best Portland Cement	38 0	per ton, ,,
Best Ground Blue Lias Lime	21 0	,, ,,

NOTE—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 14s. 0d. per yard delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly dpt.

STONE.

Per Ft. Cube.

	s. d.
BATH STONE—delivered on road waggons, Paddington Depôt	1 7½
Do. do. delivered on road waggons, Nine Elms Depôt	1 9½
PORTLAND STONE (20 ft. average)—	
Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 4½
White Basebed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 6½

Per Ft. Cube, delivered at Railway Depôt.

	s. d.		s. d.
Ancaster in blocks	1 10	Closeburn Red Freestone	2 0
Beer in blocks	1 6	Red Mansfield Freestone	2 4
Greenshill in blocks	1 10	Talacre & Gwespyr Stone	2 4
Darley Dale in blocks	2 4		
Red Corsehill in blocks	2 3		

STONE (*Continued*).

YORK STONE—*Robin Hood Quality.*

Per Ft. Cube, Delivered at Railway Depôt.	s.	d.
Scappled random blocks	2	10

Per Ft. Super., Delivered at Railway Depôt.		
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2	8
6 in. rubbed two sides ditto, ditto	2	6
3 in. sawn two sides slabs (random sizes)	0	11½
2 in. to 2½ in. sawn one side slabs (random sizes)	0	7
1½ in. to 2 in. ditto, ditto	0	6

HARD YORK—

Per Ft. Cube, Delivered at Railway Depôt.		
Scappled random blocks	3	0

Per Ft. Super., Delivered at Railway Depôt.		
6 in. sawn two sides landing to sizes under 40 ft. super.)	2	8
6 in. rubbed two sides ditto	3	0
3 in. sawn two sides slabs (random sizes)	1	2
2 in. self-faced random flags	0	5

SLATES.

Per 1000 of 1200 at Railway Depôt.

In. In.	£	s.	d.	In. In.	£	s.	d.
20 x 10 best blue Bangor	13	5	6	20 x 12 ditto	14	5	0
20 x 12 ditto	14	7	6	16 x 8 ditto	7	0	0
20 x 10 1st q'lity ditto	13	0	0	22 x 10 best blue Portmadoc	12	12	6
				16 x 8 ditto	6	10	6

TILES.

At Railway Depôt.

	s.	d.		s.	d.
Best plain red roofing (per 1000)	42	0	Best "Hartshill" brand, plain sand-faced (per 1000)	45	0
Hip and Valley (per doz.)	3	7	Do. pressed (per 1000)	42	6
Best Broseley (per 1000)	50	0	Do. Ornamental (per 1000)	47	6
Do. Ornamental (per 1000)	52	6	Hip (per doz.)	4	0
Hip and Valley (per doz.)	4	0	Valley (per doz)	3	6
Best Ruabon red, brown, or brindle (Edw'ds' (pr1000)	57	6	Staffords. (Hanley) Reds or Brindled (per 1000)	42	6
Do. Ornamental (per 1000)	60	0	Hand-made sand-faced (per1000)	45	0
Hip (per doz.)	4	0	Hip (per doz.)	4	0
Valley (per doz)	3	0	Valley (per doz)	3	6

WOOD.

BUILDING WOOD.	At per standard.					
	£	s.	d.		£	s.	d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	19	0	0	..	20	12	6
Deals: best 3 in. by 9 in.	19	0	0	..	20	10	0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	16	5	0	..	17	5	0
Battens: best 2½ by 6 and 3 by 6	0	10	0		less than 7 in. and 8 in.		
Deals: seconds	1	0	0		less than best		
Battens: seconds	0	10	0		"		
2 in. by 4 in. and 2 in. by 6 in.	14	12	6	..	16	10	0
2 in. by 4½ in. and 2 in. by 5 in.	14	0	0	..	16	0	0
Foreign Sawn Boards— 1 in. and 1½ in. by 7 in.	0	10	0		more than battens.		
½ in.	1	0	0		"		
Fir timber: best middling Memel (average specification)	At per load of 50 ft.						
	6	15	0	..	7	15	0
Seconds	6	0	0	..	6	10	0
Small timber (8 in. to 10 in.)	5	5	0	..	5	10	0
Small timber (6 in. to 8 in.)	4	10	0	..	5	0	6
Swedish balks	4	0	0	..	4	10	0
Pitch-pine timber (30 ft. average)	8	5	0	..	9	0	0

JOINERS' WOOD.	At per standard.					
White Sea: first yellow deals, 3 in. by 11 in.	33	15	0	..	35	0	0
3 in. by 9 in.	31	15	0	..	33	0	0
Battens, 2½ in. and 3 in. by 7 in.	23	7	6	..	24	7	6
Second yellow deals, 3 in. by 11 in.	27	5	0	..	28	5	0
Do. 3 in. by 9 in.	25	5	0	..	26	5	0
Battens, 2½ in. and 3 in. by 7 in.	19	0	0	..	20	0	0
Third yellow deals, 3 in. by 11 in. and 9 in.	20	2	6	..	21	2	6
Battens, 2½ in. and 3 in. by 7 in.	17	2	6	..	18	0	0
Petersburg: first yellow deals, 3 in. by 11 in.	29	10	0	..	31	0	0
Do. 3 in. by 9 in.	25	5	0	..	26	5	0
Battens	19	5	0	..	20	5	0
Second yellow deals, 3 in. by 11 in.	21	10	0	..	23	0	0
Do. 3 in. by 9 in.	20	5	0	..	21	10	0
Battens	16	10	0	..	17	10	0
Third yellow deals, 3 in. by 11 in.	17	15	0	..	18	15	0
Do. 3 in. by 9 in.	17	5	0	..	18	5	0
Battens	16	0	0	..	17	0	0
White Sea and Petersburg— First white deals, 3 in. by 11 in.	21	5	0	..	23	0	0
First white deals, 3 in. by 9 in.	19	0	0	..	21	0	0
Battens	17	0	0	..	18	0	0
Second white deals, 3 in. by 11 in.	19	0	0	..	20	0	0
Second white deals, 3 in. by 9 in.	18	0	0	..	19	0	0
Battens	16	0	0	..	17	0	0
Pitch-pine: deals	34	0	0	..	35	0	0
Under 2 in. thick extra	0	10	0	..	1	0	0
Columbian or Oregon Pine, best quality	28	0	0	..	29	0	0
Yellow Pine—First, regular sizes	57	0	0		upwards.		
Oddments	39	0	0		"		
Seconds, regular sizes	43	10	0		"		
Oddments	37	0	0		"		
Kauri Pine—Planks per ft. cube	0	6	9	..	0	7	6
Oak Logs— Large, per ft. cube	0	5	0	..	0	6	0
Small " "	0	4	0	..	0	5	0
Wainscot Oak Logs, per ft. cub	0	10	6	..	0	12	6

WOOD (*Continued*).

JOINERS' WOOD (*Continued*)—	£	s.	d.		£	s.	d.
Dry Wainscot Oak, per ft. super. as inch	0	0	11	..	0	1	3
¾ in. do. do.	0	0	10	..	0	1	0
Dry Mahogany—Honduras, Tabasco, per ft. super. as inch	0	0	11	..	0	1	4
Selected, Figury, per ft. super. as inch	0	1	6	..	0	2	6
Cuba Mahogany	0	1	6	..	0	2	6
Dry Walnut, American, per ft. super, as inch	0	0	11	..	upwards. 0	1	3
French, "Italian," Walnut	0	0	11	..	0	1	6
Teak, per load (Rangoon or Moulmein)	28	0	0	..	34	0	0
Do., do. (Java)	24	0	0	..	27	0	0
American Whitewood planks, per ft. cube	0	6	6	..	0	7	6
Prepared Flooring, etc.—	Per square.						
1 in. by 7 in. yellow, planed and shot	0	17	6	..	1	0	0
1 in. by 7 in. yellow, planed and matched	0	17	6	..	1	0	0
1¼ in. by 7 in. yellow, planed and matched	1	1	0	..	1	4	0
1 in. by 7 in. white, planed and shot	0	17	0	..	1	0	0
1 in. by 7 in. white, planed and matched	0	17	6	..	1	0	0
1¼ in. by 7 in. white, planed and matched	1	1	0	..	1	4	0
¾ in. by 7 in. yellow, matched and beaded or V-jointed boards	0	14	6	..	0	16	6
1 in. by 7 in. " "	0	18	0	..	1	0	0
¾ in. by 7 in. white " "	0	14	6	..	0	16	6
1 in. by 7 in. " "	0	17	6	..	1	0	0

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London or delivered Railway Vans, per ton						
	£	s.	d.		£	s.	d.
Rolled Steel Joists, ordinary sections	9	10	0	..	10	10	0
Compound Girders, ordinary sections	12	0	0	..	13	0	0
Steel Compound Stanchions	13	0	0	..	15	0	0
Angles, Tees, and Channels, ordinary sections	12	0	0	..	13	0	0
Flitch Plates	12	0	0	..	13	0	0
Cast Iron Columns & Stanchions, including ordinary patterns	9	0	0	..	10	0	0

METALS.

	Per ton, in London.						
	£	s.	d.		£	s.	d.
IRON— Common Bars	9	10	0	..	10	0	0
Staffordshire Crown Bars, good merchant quality	9	15	0	..	10	5	0
Staffordshire "Marked Bars"	11	10	0	..	—		
Mild Steel Bars	9	15	0	..	10	5	0
Hoop Iron, basis price	10	10	0	..	—		
" " Galvanised	18	10	0	..	—		
(And upwards, according to size and gauge.)							
Sheet Iron Black— Ordinary sizes to 20 g.	10	15	0	..	—		
" " 24 g.	11	15	0	..	—		
" " 26 g.	13	5	0	..	—		
Sheet Iron, Galvanised, flat, ordinary quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	16	0	0	..	—		
Ordinary sizes to 22 g. and 24 g.	16	10	0	..	—		
Ordinary sizes to 26 g.	17	10	0	..	—		
Sheet Iron, Galvanised, flat, best quality— Ordinary sizes to 20 g.	18	10	0	..	—		
" " 22 g. and 24 g.	19	0	0	..	—		
Ordinary sizes to 26 g.	20	0	0	..	—		
Galvanised Corrugated Sheets— Ordinary sizes, 6 ft. to 8 ft. 20 g.	15	0	0	..	—		
Ordinary sizes, 22 g. and 24 g.	16	0	0	..	—		
Ordinary sizes, 26 g.	17	0	0	..	—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	13	0	0	..	—		
Best Soft Steel Sheets, 22 g. & 24 g.	14	0	0	..	—		
Best Soft Steel Sheets, 26 g.	16	0	0	..	—		
Cut Nails, 3 in. to 6 in.	13	0	0	..	13	10	0

(Under 3 in., usual trade extras.)

LEAD, &c.

Delivered in London.

	£	s.	d.		
LEAD—Sheet, English, 4 lb. and up	23	15	0	..	—
Pipe in coils	24	5	0	..	—
Soil pipe	27	5	0	..	—
Compo pipe	27	5	0	..	—

NOTE—Delivery in country in not less than 5 cwt. lots, 1s. per cwt. extra.

		In casks of 10 cwt.				
ZINC— Sheet—		59	0	0	..	—
COPPER—						
Strong Sheet	per lb.	0	1	4	..	—
Thin "	"	0	1	6	..	—
Copper nails	"	0	1	4	..	—
Copper wire	"	0	1	4	..	—
BRASS— Strong Sheet	"	0	1	3	..	—
Thin	"	0	1	4	..	—
TIN—English Ingots	"	0	1	7	..	—
SOLDER—Plumbers'	"	0	0	10	..	—
Tinmen's	"	0	1	1	..	—
Blowpipe	"	0	1	4	..	—

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

Per Ft. Delivered.

15 oz. thirds	5½d.	26 oz. fourths	6d.
" fourths	5d.	32 oz. thirds	8d.
21 oz. thirds	6d.	" fourths	6½d.
" fourths	5½d.	Fluted Sheet, 15 oz.	4½d.
26 oz. thirds	6½d.	" 21 oz.	5½d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft. Delivered.

Rolled plate	3½d.
Rough rolled and rough cast plate	3½d.
Rough rolled and rough cast plate	4d.
Figured Rolled, Oxford Rolled, Oceanic, Arctic, Muffled, and Rolled Cathedral, white	5d.
Ditto, tinted	6d.

* Not less than two crates.

OILS, &c.

		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	2	3
" " " in barrels	"	0	2	4
" " " in drums	"	0	2	6
Boiled " " in barrels	"	0	2	6
" " " in drums	"	0	2	8
Turpentine in barrels	"	0	3	0
" in drums	"	0	3	3
Genuine Ground English White Lead, (In not less than 5 cwt. casks.)	per ton	30	15	0
Red Lead, Dry	per ton	29	10	0
Best Linseed Oil Putty	per cwt.	0	10	0
Stockholm Tar	per barrel	1	12	0

VARNISHES, &c.

	Per gallon. £	s.	d.
Fine Pale Oak Varnish	0	8	0
Pale Copal Oak	0	10	6
Superfine Pale Elastic Oak	0	12	6
Fine Extra Hard Church Oak	0	10	0
Superfine Hard-drying Oak, for seats of Churches	0	14	6
Fine Elastic Carriage	0	12	9
Superfine Pale Elastic Carriage	0	16	0
Fine Pale Maple	0	10	0
Finest Pale Durable Copal	0	18	6
Extra Pale French Oil	1	1	0
Eggshell Flating Varnish	0	18	0
White Pale Enamel	1	4	0
Extra Pale Paper	0	12	0
Best Japan Gold Size	0	10	0
Best Black Japan	0	16	0
Oak and Mahogany Stain	0	9	0
Brunswick Black	0	8	0
Berlin Black	0	16	0
Knotting	0	10	6
French and Brush Polish	0	10	0

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.]

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 2 *p.m. on Wednesday.* [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.* unless in some exceptional cases and for special reasons.]

*Denotes *accepted.* †Denotes *provisionally accepted.*

BIRKENHEAD.—For erection of a sanatorium, consisting of a ward pavilion, administrative block, porter's lodge, laundry, etc., at Thingwall. Quantities by Mr. Chas. Brownridge, Borough Engineer and Surveyor, Town Hall, Birkenhead:—

A. Fleming, Leighton-road, Neston, Cheshire* £7,993

BOURNEMOUTH.—Laying wood-block paving in Holdenhurst-road from Lytton-road to the Richmond Park-road, for the Corporation:—

W. Griffiths & Co., Ltd.* £6,336 10

BOURNEMOUTH. — Making-up of Southbourne Overcliff Drive, for the Corporation:—

J. Francis* £649 4 6

BROADSTAIRS. — Erection of convenience at Pierremont Pleasure Grounds, for the Broadstairs and St. Peter's Urban District Council:—

Dagley Bros.	£318	Anderson Bros.	£230
E. R. Dunn	247	J. E. White, Ramsgate*	223
J. T. May	243		

CROSBY.—For erection of a new Council school at Crosby, in the County of Lincoln, for the Lindsey County Council Education Committee. Messrs. Scorer & Gamble, Architects, Bank-street-chambers, Lincoln:—

J. Holmes & Son	£12,800	P. T. Kettlewell	£10,393
W. Pallister	10,875	H. J. Thompson	9,995
B. Pumfrey	10,749	W. Wright & Son, Ltd.	9,948
S. & R. Horton & Sons, Ltd.	10,678	Lombard, Rodgers, & Crooks, Ltd.	9,857
Thornhill Bros.	10,512	Gilbert & Hall	9,760
J. Jarvis & Sons, Ltd.	10,440	T. Fish & Sons	9,186

DOCKING.—For erection of six dwellings at Brancaster, for the Docking Rural District Council. Mr. Harold Kennard, A.R.I.B.A., 26, Great James-street, Bedford-row, W.C.:—

F. Southgate £1,087
R. Shanks, Hunstanton and Chatteris* ... 897

FELIXSTOWE.—For outfall works, for the Urban District Council:—

Parker Bros.* £1,434

GILLINGHAM.—For erection of a block of dwellings in Middle-street, Brompton, for the Town Council. Quantities by Mr. J. L. Redfern, Borough Surveyor, Council Offices, Gardiner-street, Gillingham:—

Saunders & Co.	£1,633 4 6	H. E. Phillips	£1,297 0 0
G. Gates & Sons	1,475 0 0	C. E. Skinner & Son, Chatham*	1,189 0 0
West Bros.	1,347 0 0		

GREENWICH.—Supply of 6,000 ft. super. of tooled York stone to the Borough Council:—
S. Marshall & Sons, Southowram,* £3 17 9 per 100 feet super.

GRIMSBY.—For extension of workhouse buildings, for the Grimsby Board of Guardians. Mr. H. C. Scaping, Licentiate R.I.B.A., architect, Court-chambers, Grimsby. Quantities by Mr. J. Watson, F.S.I., Bowl Alley-lane, Hull:—

J. Jarvis	£24,720 0 0
B. Pumfrey	23,919 0 0
W. Ion	23,927 0 0
Swaby & Walsham	23,859 0 0
Wilkinson & Houghton	23,681 0 0
Gilbert & Hall	23,141 0 0
J. H. Thompson & Sons, Ltd.	22,999 0 0
Hewin & Goodhand, Grimsby*	22,945 6 8

HINCKLEY.—For new offices and additions to Sketchley Dye Works. Mr. W. T. Grewcock, A.R.I.B.A., architect, Leicester:—

H. Herbert & Sons, Ltd.	£4,039 0 0	Bowles & Son	£3,942 0 0
A. Jeffcote	4,028 0 0	W. Sharpe & Son, Ltd.	3,940 0 0
G. Greaves	4,018 8 4	W. K. Flavell	3,871 0 0
J. Chapman & Sons, Ltd.	4,005 0 0	Clarke & Garrett	3,840 0 0
W. Moss & Son	3,995 0 0	J. Bentley & Co., Leicester*	3,789 0 0
J. Hutchinson & Son	3,990 0 0		

KEIGHLEY.—Construction of sewer from Hardings-lane to the Beechcliffe sewer, for the Corporation:—
W. Morley & Sons* £515 13 2

KINGSTOWN.—For erection of thirty-six artisans' dwellings on a site at Sallynoggin, for the Kingstown Urban District Council. Messrs. Caldbeck & Dunlop, Architects, 2, St. Andrew-street, Dublin. Quantities by Mr. T. F. Slevin, Stephen's-green, Dublin:—

G. Bowers	£7,497 19 4	J. Plunkett	£6,994 9 0
A. Fraser & Co.	7,450 0 0	W. Jennings, Kenmore, Co. Kerry*	6,850 0 0
H. Duncan	7,200 0 0		
M. O'Brien	7,185 0 0		
T. Weafer	7,140 0 0		

LONDON.—For the erection of a new Section House at Mare-street, Hackney, for the Receiver for the Metropolitan Police District. Mr. J. Dixon Butler, F.R.I.B.A., Architect, New Scotland-yard, S.W. Quantities by Messrs. Thurgood, Son, & Chidgey, 8, Adelphi-terrace, Strand, W.C.:—

Wall Bros.	£12,700	Sabey & Son	£11,846
McCormick & Son	12,392	Higgs & Hill	11,798
Adamson & Sons	12,325	Dickens	11,682
W. Shurman & Sons	12,321	Patman & Fotheringham	11,671
Roome & Co.	12,169	A. Monk	11,620
Perry & Co.	11,950	Jerram	11,497
Jarvis & Sons	11,940	Ashby & Horner	11,411
Sheffield Bros.	11,878		
Dove Bros.	11,855		

LONDON.—Alterations and additions at the South-Western Station, for the Metropolitan Asylums Board:—

W. Eyre	£160 5 0	R. J. Truscott	£118 13 9
J. Darch	148 0 0	E. Peddle	111 0 0
H. King & Son	147 10 0	C. H. Boyd & Son, 6, Dyer's-buildings, Holborn, E.C.*	111 0 0
Gardner & Hazell	123 15 0		
H. Line	119 0 0		

LONDON.—Erection of disinfector building, etc., at North Wharf, for the Metropolitan Asylums Board:—

Gardner & Hazell	£560	R. J. Truscott, 291, Romford-road, Forest Gate*	£357
W. Hussey	467		
L. Kazak	430		

LOUGHBOROUGH.—Making up Albert-promenade, for the Corporation:—
J. S. Ball, Barrow-on-Soar* £275

MACCLESFIELD.—Decoration of the Certified Industrial School for Boys, for the Governors:—
E. V. Rumsey, Macclesfield* £253

MALDON.—Erection of overhead tank, etc., in connection with the Tollesbury water scheme, for the Maldon Rural District Council:—
Newton, Chambers, & Co., Thorncliffe* ... £611

NOTTINGHAM. — For the erection of Central Buildings, Upper Parliament-street, Nottingham, for the Nottingham Co-operative Society, Ltd. Mr. William V. Betts, Licentiate R.I.B.A., architect. Quantities by the architect:—

G. Hopewell & Son	£15,686 0 0
W. Woodsend	15,332 0 0
J. Wright	15,148 0 0
Fish & Sons	14,824 0 0
T. Bow	14,190 0 0
Dennett & Ingle	14,120 0 0
T. Long & Sons	14,077 13 0
T. Barlow & Co.	13,685 0 0
W. Crane, Ltd.	13,554 0 0
W. Maule & Co.	13,550 0 0
Gilbert & Hall	13,440 10 0
F. Evans, Bulwell, Nottingham*	13,430 8 7

[Architect's estimate, £13,800.]

PRESTON.—Erection and completion of baths in Saul-street and Walker-street, for the Corporation:—
T. Croft & Sons, Ltd. £11,807

SEVERALLS.—Boring of 15½-in. artesian well at Severalls Asylum, for the Essex County Council:—
H. C. Smith, Fingringhoe* £922 18

SEVERALLS.—Erection of greenhouse at Severalls Asylum, for the Essex County Council:—
D. Tucker & Sons, Ltd.* £275

WOOLWICH.—Shelter over convenience in Beresford-square, for the Borough Council:—
W. Cooper & Co., Ltd.* £100

UXBRIDGE.—Erection of laundry at Yeading Hospital, and repairs, etc., for the Uxbridge Joint Hospital Board:—

—	Laundry.	Repairs.	Total.
	£ s. d.	£ s. d.	£ s. d.
Lovell & Sons	216 0 0	148 0 0	364 0 0
Russell	—	81 0 0	—
C. F. Kearley	204 15 0	91 17 6	296 12 6
F. D. Hidden & Co.	193 0 0	—	—
A. Winch	195 0 0	90 0 0	285 0 0
C. Spalding, Hayes*	145 0 0	77 0 0	222 0 0
Street Bros.	—	—	257 0 0

WEDNESBURY.—Erection of twenty-four workmen's dwellings in Hobs Hole road, for the Corporation:—
Summerhill & Jellyman* £4,320

Ham Hill Stone.
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The Ham Hill and Doulting Stone Co., Limited
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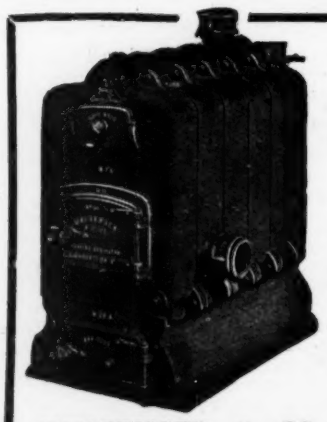
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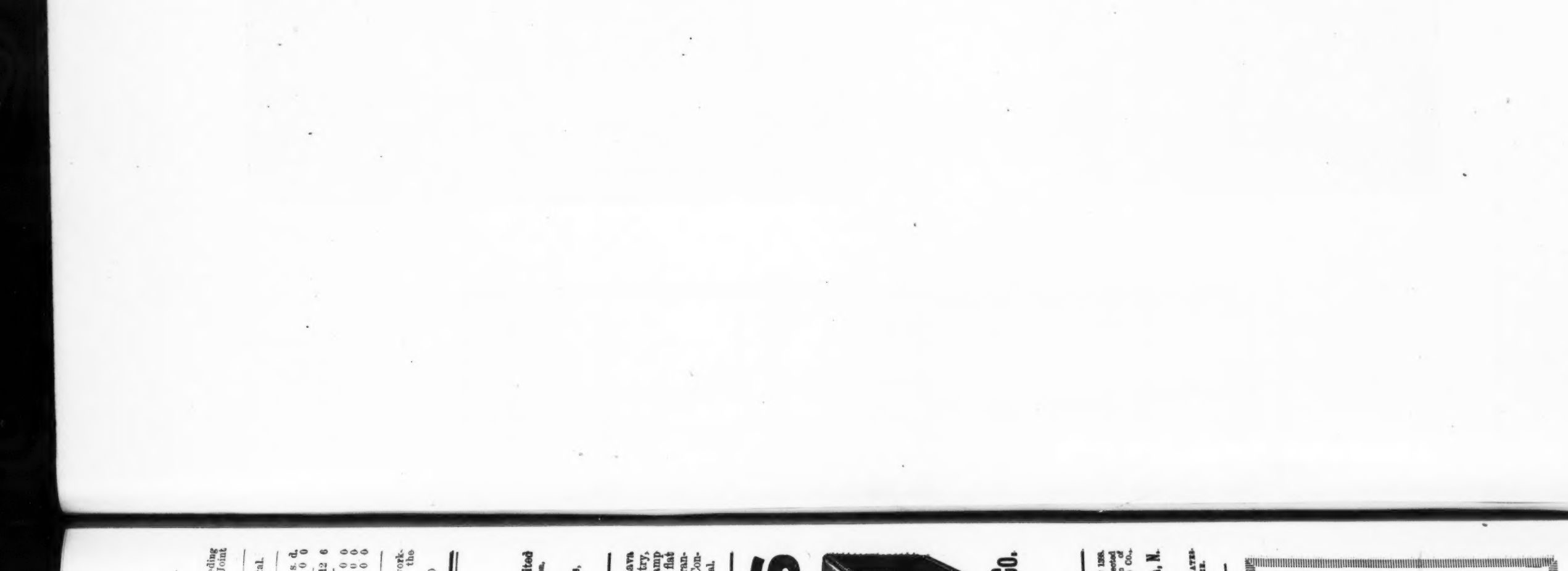
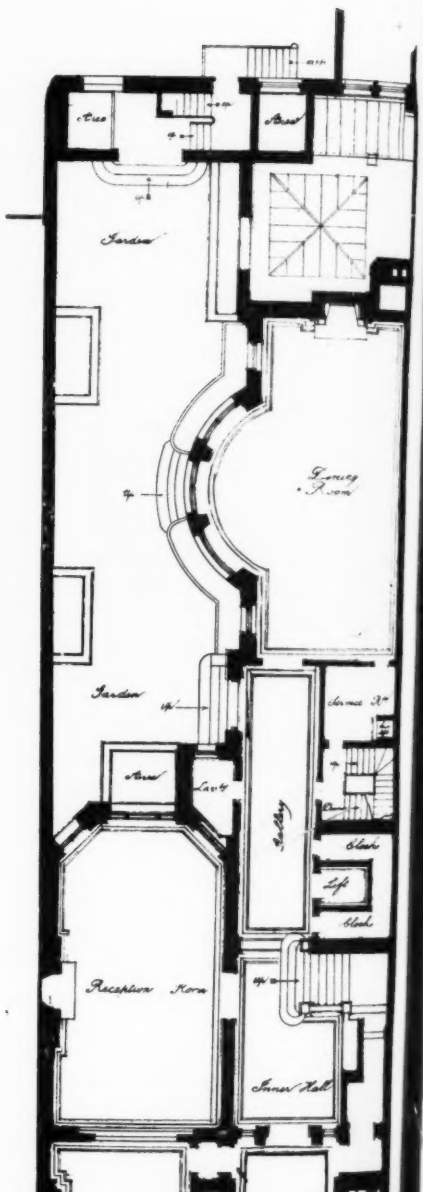


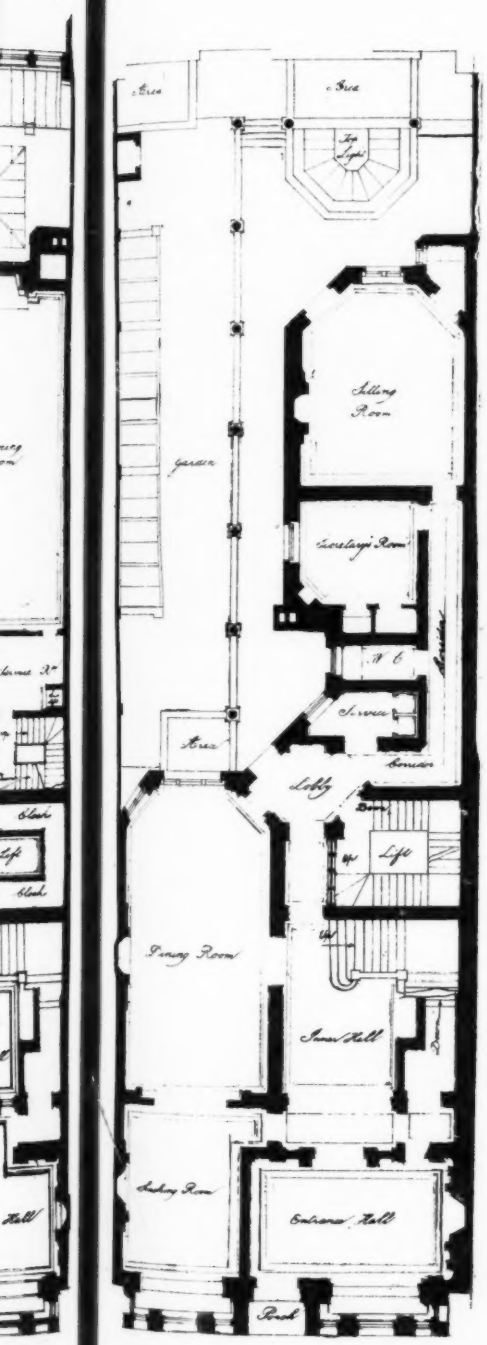
TERRACE GARDEN, SHOWING DINING-ROOM AND LOGGIA.



GROUND FLOOR PLAN AS ALTERED, 1912.

DINING-ROOM.

No. 27, GROSVENOR-SQUARE, W.: ALTERATIONS AND ADDITIONS

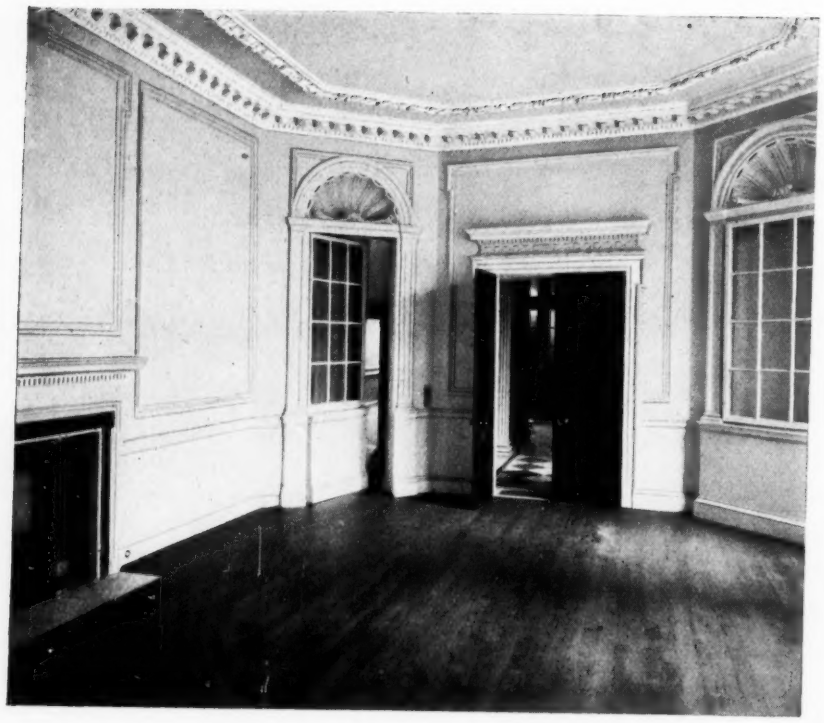


GROUND FLOOR PLAN BEFORE ALTERATIONS.

VIEW OF LOGGIA.

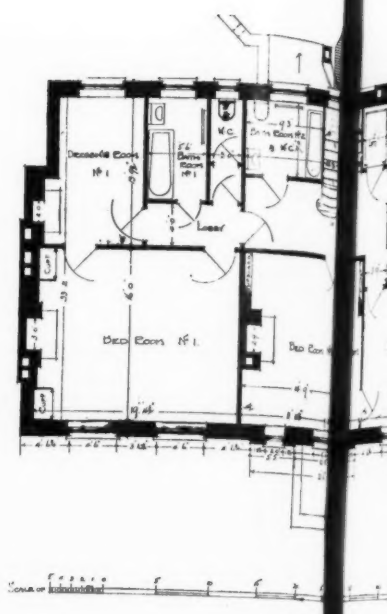
ENTRANCE HALL.

ADDITIONS.—MESSRS. MEWÈS & DAVIS, ARCHITECTS.



DINING-ROOM.

HALL, SHOWING ENTRANCE.



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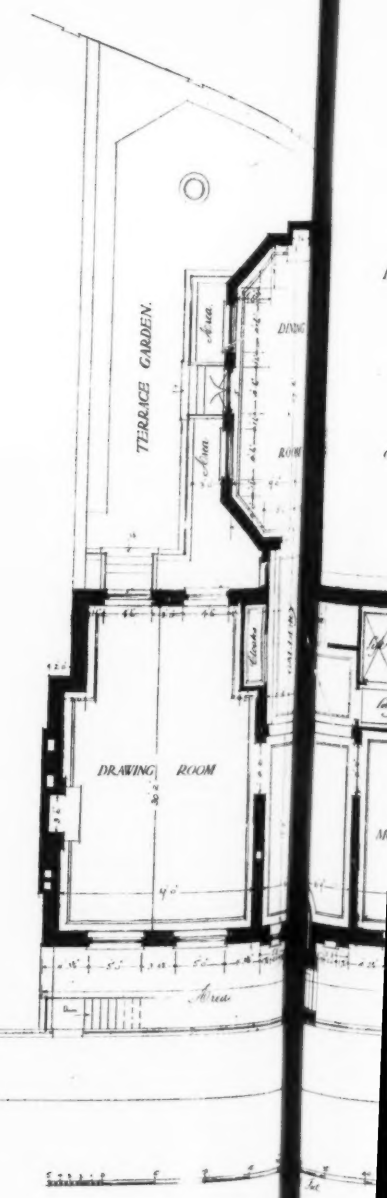
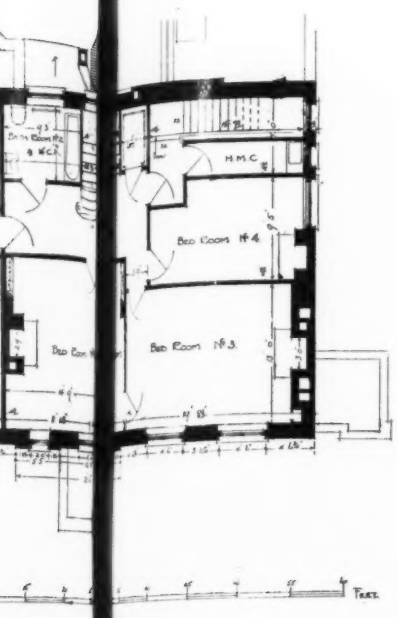


GROU[illegible]LAN.

LOWNDES HOUSE, LOWNDES-PLA[illegible]MESSRS. [illegible]

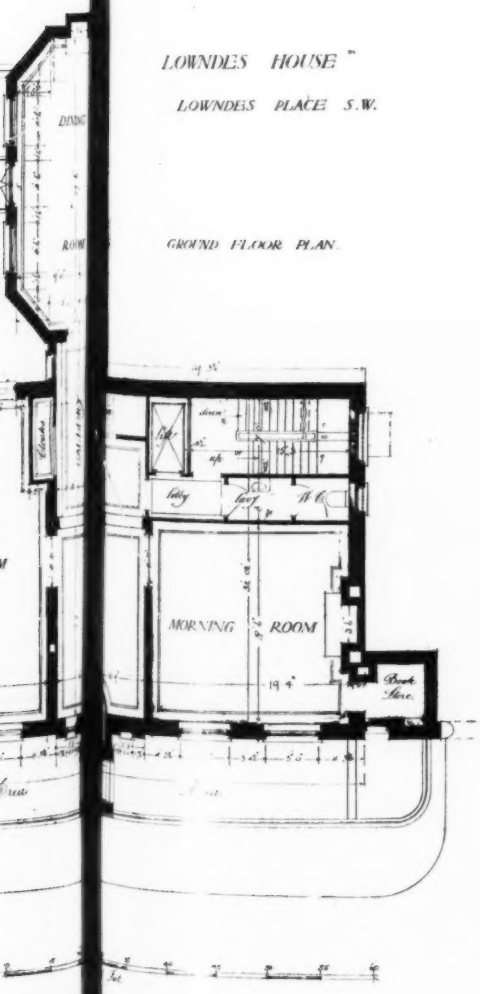


First [illegible]an.

Hall and Staircase.

LOWNDES HOUSE

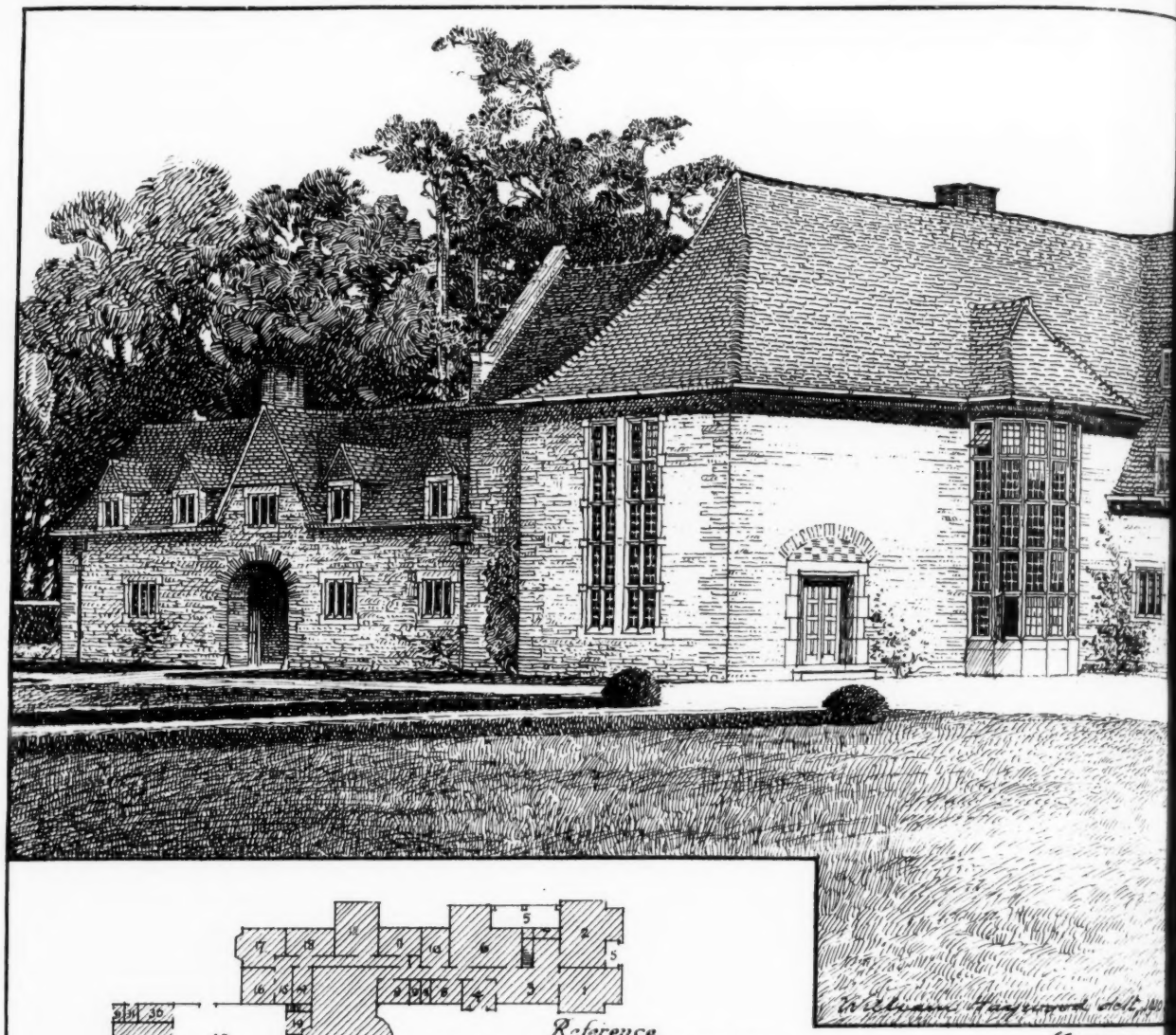
LOWNDES PLACE S.W.

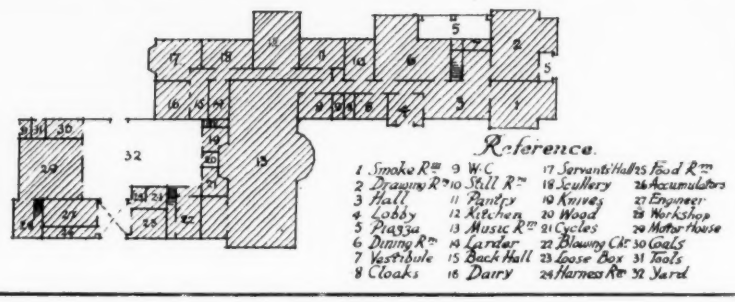


Ground [illegible]an.

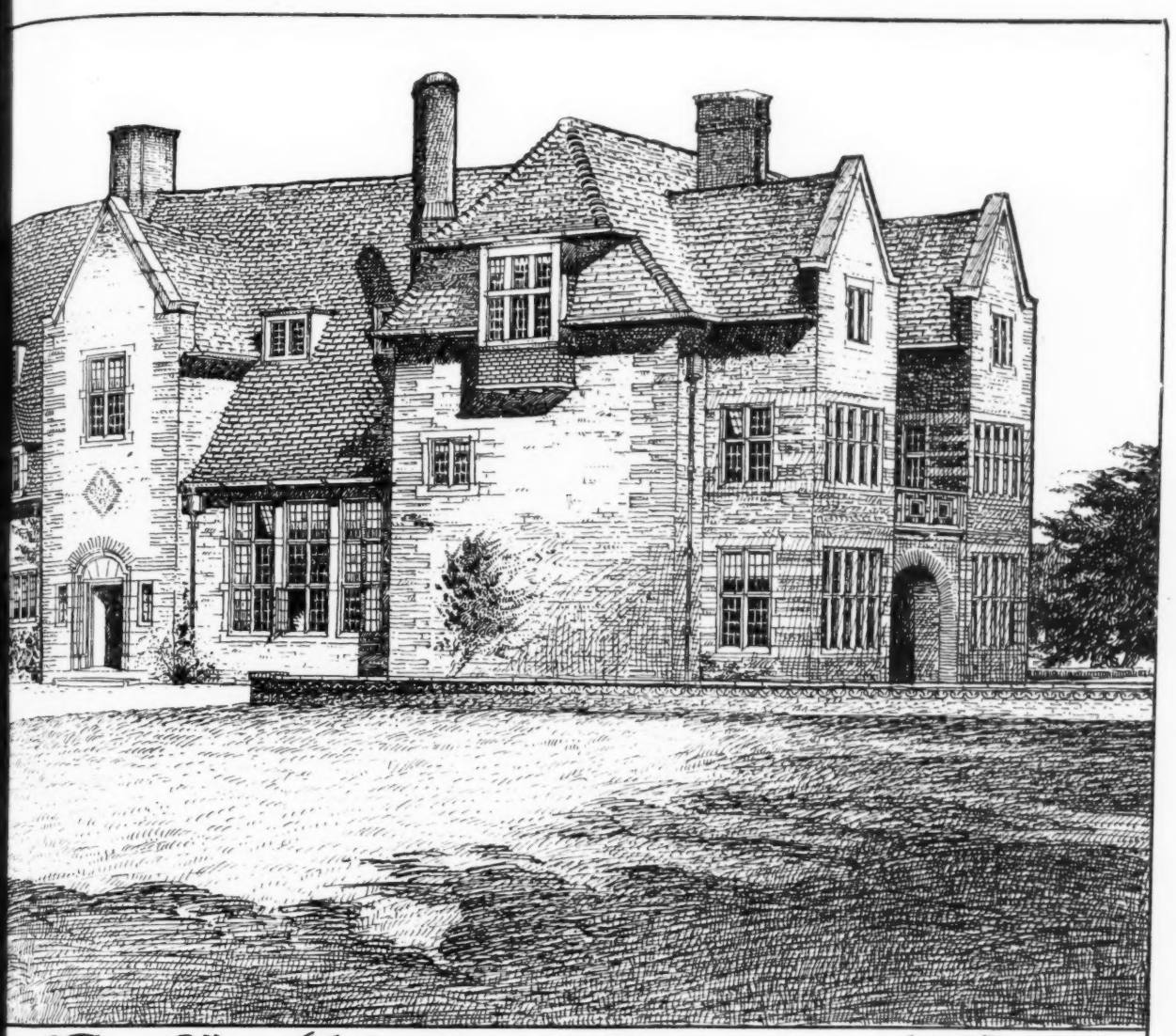
From Drawing-Room to Hall

[illegible]des-Pla[illegible] Messrs. Mewès & Davis, Architects.




Reference.
1 Smoke Rm 9 W.C. 17 Servants' Hall 25 Food Rm
2 Drawing Rm 10 Still Rm 18 Scullery 26 Accumulators
3 Hall 11 Pantry 19 Knives 27 Engineer
4 Lobby 12 Kitchen 20 Wood 28 Workshop
5 Piazza 13 Music Rm 21 Cycles 29 Motor House
6 Dining Rm 14 Larder 22 Blowing Cl. 30 Coals
7 Vestibule 15 Back Hall 23 Loose Box 31 Tools
8 Cloaks 16 Dairy 24 Harness Rm 32 Yard

"Gre



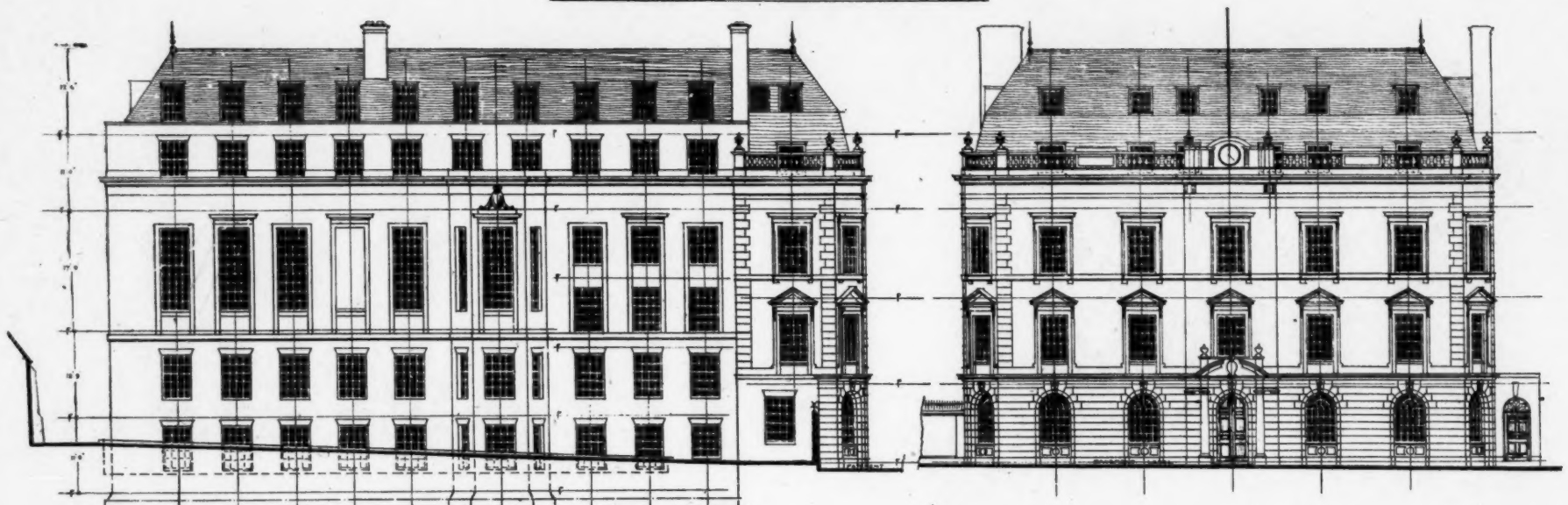
"Roke," Witley: Surrey.

The Entrance Front

Herbert J. Buckland
& Elsegood Farmer
Architects
1910

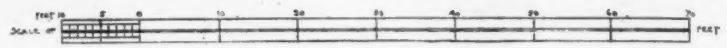
METROPOLITAN BOROUGH OF ST. PANCRAS

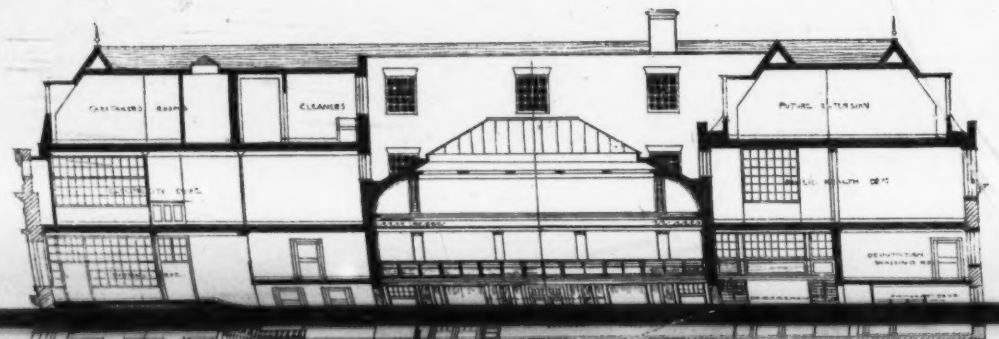
PROPOSED MUNICIPAL OFFICES

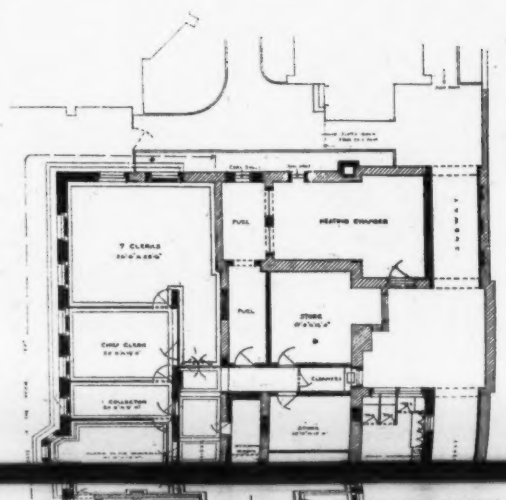


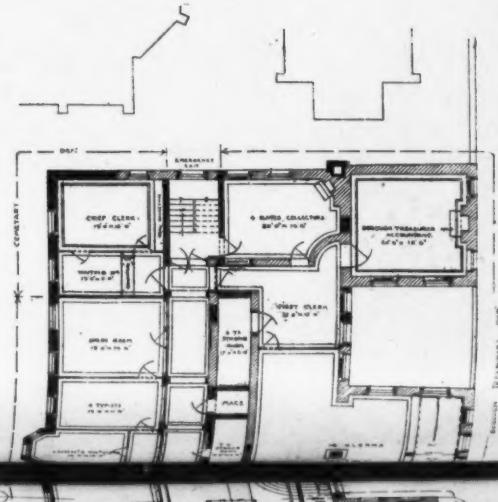
NORTH ELEVATION

WEST ELEVATION

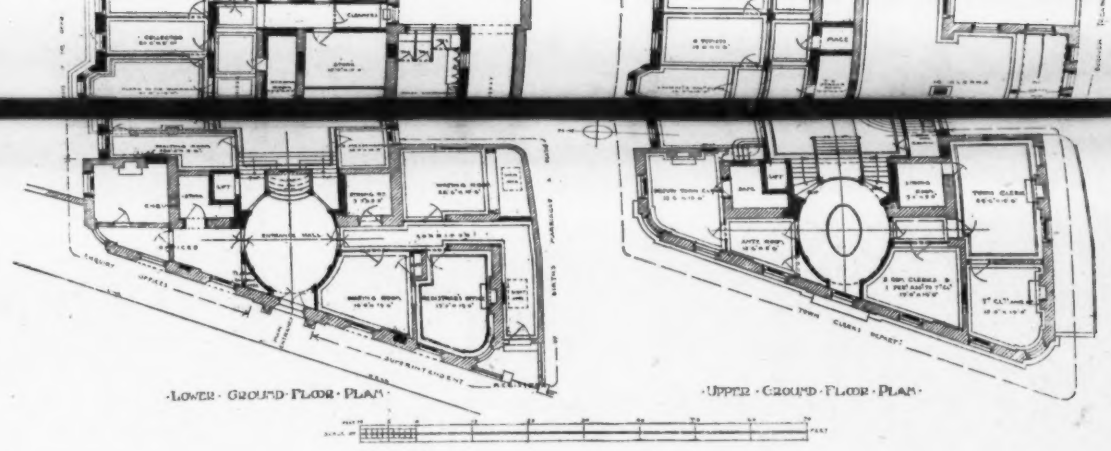






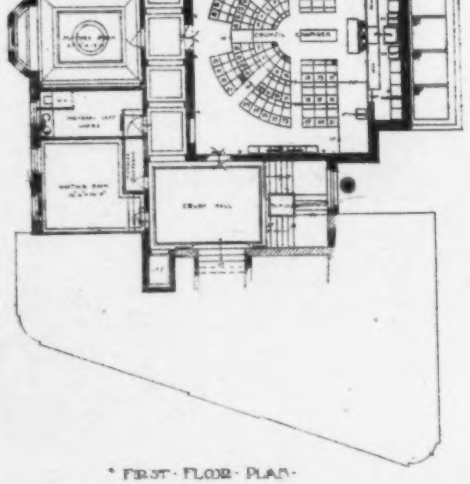


LONGITUDINAL SECTION on CENTRE LINE
THRO ENTRANCE HALL & COUNCIL CHAMBER FACING NORTH

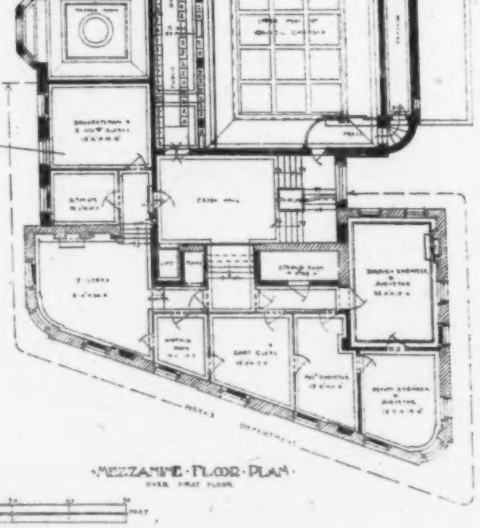


LOWER GROUND FLOOR PLAN

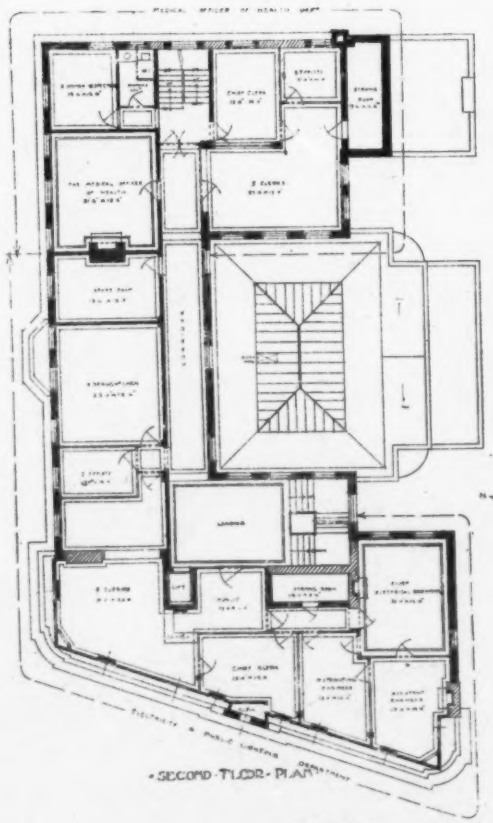
UPPER GROUND FLOOR PLAN



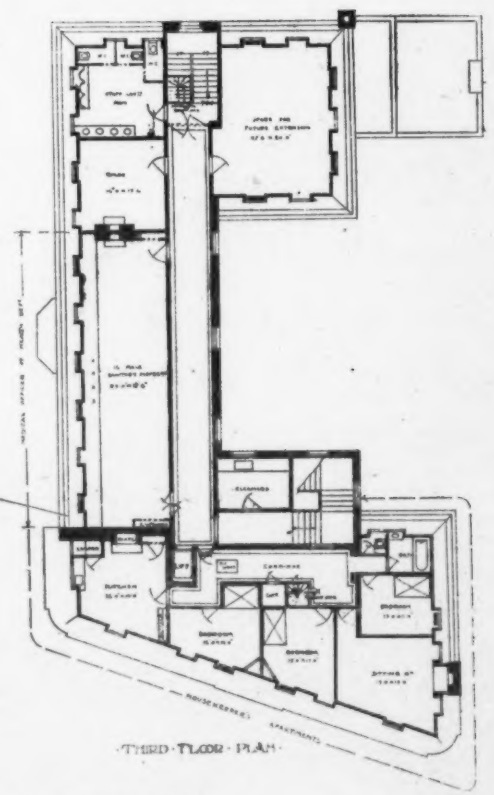
FIRST FLOOR PLAN



MEZZANINE FLOOR PLAN
OVER FIRST FLOOR



SECOND FLOOR PLAN



THIRD FLOOR PLAN

ST. PANCRAS MUNICIPAL BUILDINGS RECONSTRUCTION: ACCEPTED DESIGN.—MR. A. J. THOMAS, M.S.A., LICENTIATE R.I.B.A., ARCHITECT.